SUPPLEMENT TO KINEMATOGRAPH WEEKLY

Studio review

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Thurso

STUDIO REVIEW. No Volume Numbers. Years 1946 to 1952 inclusive.

I N D E X.

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INTRODUCING THE "KINE.'S" SPECIAL

BRITISH STUDIO SECTION

Trade is Poised for its Biggest Production Drive in History

THE prestige of British film production—for all the handicaps and difficulties experienced during the war years—stands higher to-day than at any other period of its history.

Our films are beginning to have a world significance. Those which have been screened in the United States have won respect; Europe, the Dominions and the Colonies are demanding our product, sometimes in preference to that of other countries.

In the cold, commercial matter of playing time, British films are doing better than ever.

They are shown, not by compulsion, but by choice and, as exhibitors of every shade of opinion throughout the country will agree, they are doing business that is a sure reflection of their popularity with the British public.

Not long ago, "The Seventh Veil" was breaking all records. That picture was eclipsed in many sections by "The Wicked Lady." Now we learn that "Caravan" is beating the figures set by that film. The situation is the healthiest possible sign of the public's approval of British product.

THIS is exactly as it should be—and there is no suggestion here of minimising the enormous value to the business of the American output, which remains the cornerstone on which exhibiting prosperity is founded. But no one can contest the statement that it is right and proper for British films to receive their full share of playing time.

Precisely what that share will be only time can tell.

Certain it is that the success of the British film production Industry at the moment is only a forerunner to its still greater success in the future. We have attained much, and the men responsible for that achievement stand ready to do the rest which needs to be done.

These men, who have pledged themselves to a policy of continuously stepped-up production, will agree that on a successful British studio industry depends our success in every other branch of this complicated business.

So every time the future of this Industry is considered, discussion must inevitably come back to the one key word—and the word is "studios."

It would be safe to say that every producer in this country to-day has plans in detail for far more films than he can possibly hope to get on the floor for very many months to come. This is taking no account of story properties bought and put on the shelf, or projects purely for the future.

FLOOR space at the moment is a serious bottleneck. Taken in conjunction with the need for re-equipment in most studios, it represents a serious brake upon the progress of an Industry that is pulsating with curbed energy.

Some studios have already been cleared: virtually all have been de-requisitioned. But that is only half the battle. In many instances there is a huge amount of work of reconstruction to be done before studio plant can be moved in again. And then the problems of obtaining up-to-date equipment for sound recording, photography and processing have to be met.

An additional dilemma that some owners of studio property have had to face is whether to re-fit the studios with all speed and get on with production, or whether to hold back and carry out much-needed modernisation before bringing the film-makers back.

SOME of the biggest studio organisations, as you can read in this week's supplement, have elected to take the long view. Elstree and Amalgamated, for instance, are undertaking drastic alterations which should make them, when they do reopen for production, equal to the finest studios in the world.

Certainly, the British studios, although encompassed by difficulties, are making a determined and constructive effort to provide more floor space. Slowly and surely they are getting the better of the besetting problems.

It must not be forgotten, either, that there are plans for entirely new studios on the drawing boards that will be put into practical form as soon as restrictions on materials and labour become easier. And it should be taken as eloquent testimonial to the future that the world sees for British films that major United States concerns, 20th Century-Fox and Paramount, have announced their intention to build studios here.

All who read this supplement will have a detailed picture of the efforts which are being made to get our studios back to pre-war efficiency, and a long way ahead of that.

MAN-POWER is sorely needed, not only for the multitudinous technical and artisan branches of the production business, but for the actual work which is to be done in reconstruction.

As to man-power for studio jobs, men who have run Service units tell enthusiastically of the hundreds of young men and women who have learned technical jobs connected with films as part of their routine duties, and who would welcome a chance to make a career in the studios.

With regard to stars and players, we have never been richer in material. When, even with the limited showing our films have had in the United States, Americans are demanding more and more of the work of such of our stars as James Mason, Margaret Lockwood and Stewart Granger, there can be nothing wrong with our stars. And there are a host of promising young players who need only a few more screen appearances before they, too, will be major attractions.

IN this connection, tribute should be paid to the star-building policy of Gainsborough, whose steady work at Shepherd's Bush has produced for Britain her best known stars, and whose success in this way seems to have inspired Sydney Box to set up that more recent star-building organisation, the Company of Youth.

The studio industry to-day is richer in leaders of quality than ever before. And they are leaders of spirit. Ostrer has left the Rank sphere of influence to strike out on his own. Box prepares to accept the biggest job of his career by taking his place—and still retains something of his own interests.

Korda, supported by Arthur Jarratt, plans an organisation that may become a pattern for independent production. And Rank himself, that visionary with the sound basis of invaluable Yorkshire shrewdness, finds time in all his widespread activities to develop his studios, and to support in easy alliance those independent groups which are such a distinctive feature of British production to-day.

Associated British, when its Elstree studios reopen, may well rival the Rank group in resources and output.

One should mention, too, the quiet and unobtrusive work of the B.F.P.A. The fact that studio de-requisitioning has proceeded so satisfactorily is due largely to the unsparing efforts of secretary Wingrove, whose battle with restrictions is unending and untiring. And let us not forget our backroom workers—the research people who are striving steadily to enable us to make short cuts to film supremacy.

ALL these facts are signs of a virile Industry, eager to break loose from the tangle of restrictions and embargoes, and get on with the job for which all its members believe it to be fitted—the job of producing a spate of finely made films expressing all that is best in British life.

What is needed, then, at this moment of renaissance, at this point where we go ahead from the cramped restrictions of wartime to the steady expansion of peace and normality, is more and more studio space. As the KINE. shows to-day, the Industry is slowly but steadily increasing its actual film making capacity, and there is not the slightest doubt that the eventual product will be considered to justify the great effort that is being made in this present preparatory stage.

XB

BRITISH PRODUCERS PLAN INCREASED FLOOR AREA FOR ALL-OUT RECONSTRUCTION DRIVE

"Kine's" Exclusive Survey Reveals that Rank Capacity Will Be Outnumbered 2-1

By P. G. BAKER, "Kine." Studio Correspondent

THIS week-end Britain celebrates Victory, a year after the last shot was fired in World War Two. At one time during the war the film Industry saw production output drop to nearly zero; but, despite the first dislocation and the later bombing, the war did not finish British production as it did during 1914-1918.

Indeed, at the end of the war our production standard was higher than it had ever been. Now here is the present studio capacity for the peace-time film offensive:—

13 studios.
46 sound stages.
401,228 sq. ft. of stage space.

In terms of major feature production work, the current studio capacity is:—

9 studios.
39 sound stages.
374,344 sq. ft. of stage space.

But the major part of Britain's planned production space is out of action. These capacity figures are for studios which are being reconditioned and studios which are to be put up as soon as licences are granted:—

11 studios.
26 sound stages.
487,677 sq. ft. of stage space.

In terms of major feature production work, the out-of-production studios represent a capacity of:—

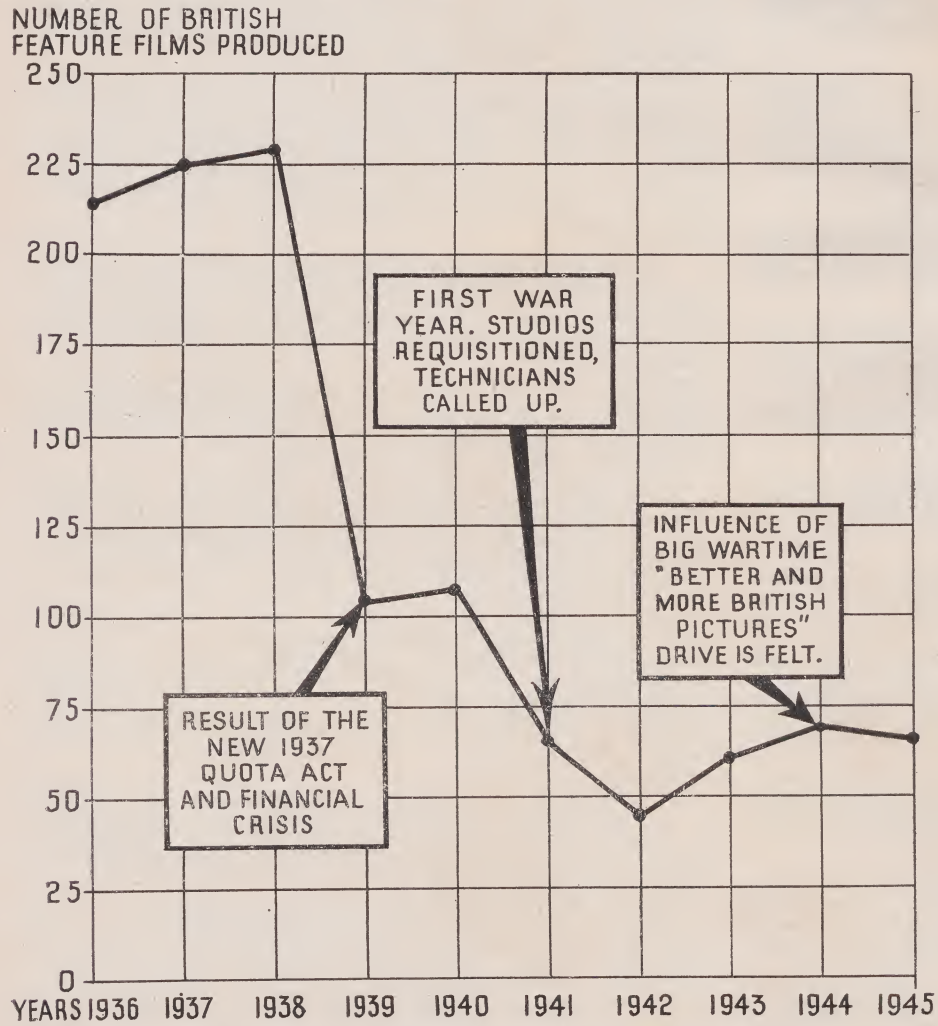
5 studios.
18 sound stages.
335,225 sq. ft. of stage space.

This means that when all existing studios, plus the new Brighton and Torquay projects, are in full operation, we shall have the record production capacity of:—

24 studios.
72 sound stages.
888,905 sq. ft. of stage space.

Of this total capacity, these figures represent the space which will be suitable for major feature work:—

14 studios.
57 sound stages.
709,569 sq. ft. of stage space.



Graph illustrating British production output over period 1936-45, according to B. of T. figures

The rehabilitation programme is well ahead. The only studio space still held by the Government is:—

M. and P. (Elstree)
2 stages ... ... 13,550 sq. ft.
Wembley (20th-Fox)
2 stages ... ... 12,252 sq. ft.
Beaconsfield
1 stage ... ... 6,325 sq. ft.

(*The Beaconsfield plant, controlled by Sir Alexander Korda, has been leased by him to the Crown unit for* 21 *years.*)

No statement has been made by any company controlling other derequisitioned studios about when the plant will be in production again. But here is a studio-by-studio nutshell description of the position of the demobbed plants:—

A.B.P.C., Elstree.—Contractors have started work on reconstructing the studio. The work includes the enlarging of main stages and considerable alterations to the administrative wing. Production likely on four stages by late 1947.

Amalgamated, Elstree.—Contractors are stripping the interior of each stage. Considerable damage was caused by war-time manufacture. Studio is expected to be completed by late 1947.

Teddington.—Rebuilding is well ahead. One stage is nearly completed. It will, according to contract, be ready for production next January.

Twickenham.—Damage is being repaired, reconditioning is progressing well.

Worton Hall.—Ready for early production, possibly before the end of the summer.

When these studios are back in production they will considerably alter the present balance of Rank production control. To-day, Arthur Rank controls Denham, Highbury, Islington, Pinewood, and Shepherd's Bush, all of which are in production. This represents five studios; 21 stages; and 230,687 sq. ft. of stage space.

Rank also controls the M. and P. studio, which is still held by the Army—one studio; two stages; and 13,550 sq. ft. of stage space.

To-day, the major studios which are not controlled by the Rank interests (Ealing, Nettlefold, Riverside, Sound City, British National, and Welwyn) represent: six studios; 22 stages; and 162,369 sq. ft. of stage space. So this is the actual figure:—

Rank stage capacity: 230,687 sq. ft.
Major independent stage capacity: 162,369 sq. ft.

But there are five major studios out of production, representing 18 stages and 435,225 sq. ft. of stage space. So that when all major studios are working again (not counting studios unsuitable for top-grade feature films), the control will lie:—

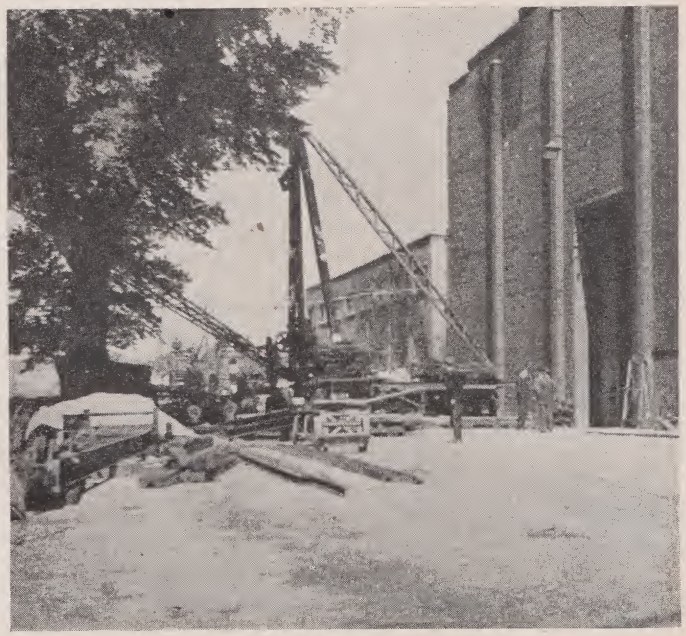
Rank: 6 studios; 23 stages; 244,237 sq. ft. of stage space.
Others: 11 studios; 40 stages; 597,594 sq. ft. of stage space.

The latter figures include Korda's interests (two studios; nine stages; 74,730 sq. ft.); the Warner and A.B.P.C. plants (three studios; 10 stages; 169,163 sq. ft.), and the vast M-G-M Amalgamated studio of four stages (which split to make eight stages), representing 180,000 sq. ft. of stage space.

A lot has been said during recent months about the output quantity of British studios. According to Board of Trade figures, 225 British features came out of our studios in 1937. There were about 20 studios operating at the time.

RECONSTRUCTION SURVEY—continued

Much New Equipment Will Be "British Made"



One of a number of cranes which are at present stripping the Amalgamated stages at Elstree pulls out part of the metal work from one of the stages. When the contractors have stripped each stage the interior reconstruction work is set to begin

There is a very good argument that production output could be increased immediately without sacrificing quality, when it is realised that Sydney Box made his record-breaking "Seventh Veil" at Riverside in average production time on only 12,675 sq. ft. of stage space.

But output is obviously being handicapped because of a shortage of technicians. Statistics supplied by each studio show that we have an employment roll of:—

2,803 construction men
876 clerical and other grades
997 technicians employed by studios

4,676 Total studio personnel of studios in production.

These figures are unreliable, because they do not account for free-lance technicians for non-studio holding production companies or for the documentary and short units. Again, the figures do not cover actors or laboratory personnel.

But a survey made in 1936 (quoted in the H. Junge book, *Plan for Film Studios*, Focal Press) shows that a total of 10,500 people was then employed in British production. The latest calculated figure, made in 1944, was 9,250, an analysis of which showed that feature technicians had dropped from 1,000 to 500. But laboratory workers had increased: 1,000 in 1936 and 2,000 in 1944.

We have more technicians back on feature work, otherwise it is unlikely that there is any considerable change to date in the 1944 total employment roll.

Production companies which have been making films during the 1944-46 period (this excludes any dormant company) now number 31. The figure does not include documentary and short producers.

The rehabilitation of our studios is a slow process, although Government Departments are doing everything possible to speed the recovery of British production. Since the Government's pledge in November—"Studios next to houses"—there has been a definite speed up getting the stages back to normal.

There are two reasons why plans are not going ahead as fast as we should like them to do—shortage of man-power and shortage of materials.

The labour situation is being eased in some of the work centres by the employment of N.A.T.K.E. men on a number of maintenance jobs. As specialists, these union men are doing only the type of job that would be expected of them under normal film-production conditions.

Demob. Problems

But labour is still short, although there are signs of improvement week by week.

Although the major studios which were requisitioned during the war are now freed, there are still studios and parts of studios held by the Services or Government Departments.

The 20th Century-Fox plant at Wembley is still partly held by the Army. The studios are small and the company wants to build a larger plant.

The military still hold the M. and P. plant at Elstree, and Handley-Page, aircraft production firm, still has a large press on Amalgamated's Stage D. But the space at Pinewood, British National, Twickenham and Nettlefold which was held at the beginning of the year, has now been handed back.

This handing back of space is not without its problems for the production companies concerned. If the war-time tenant has built sheds on a studio's lot, the Government Department concerned states a figure for the purchase of such property by the studio company.

At Nettlefold, two large corrugated iron sheds were put up by Vickers for turning out 'plane parts. Nettlefold had either to buy both these sheds from the Ministry of Aircraft Production, or M.A.P., which under present circumstances could not see its way clear to authorise the demolition of such valuable industrial property, would keep the lot requisitioned and possibly lease out the sheds to some short-of-space manufacturer.

So Nettlefold has purchased the buildings and will convert them, I believe, into a model stage, wardrobe extensions and cutting rooms.

As this first post-war KINE. Studio Supplement goes to press, most of the major demobbed studios are well ahead with their reconstruction programmes, but there is one more obstacle ahead—the supply of new equipment.

The equipment position has been worrying producers for some months. We all know how, during the war, some of Britain's best pictures were turned out on cameras which had components literally held together with string. By now, much equipment is only fit for the junk heap; but new equipment shows no sign of arriving fast enough to meet immediate demands.

Warners alone has placed orders for £45,000 worth of new equipment for its Teddington plant. A.B.P.C. ordered new equipment for Welwyn during the days of air raids, only part of which is already in the studio. In short, both British and U.S. equipment manufacturers have orders far in excess of any peace-time demands. They are trying to execute these under virtually war-time conditions—

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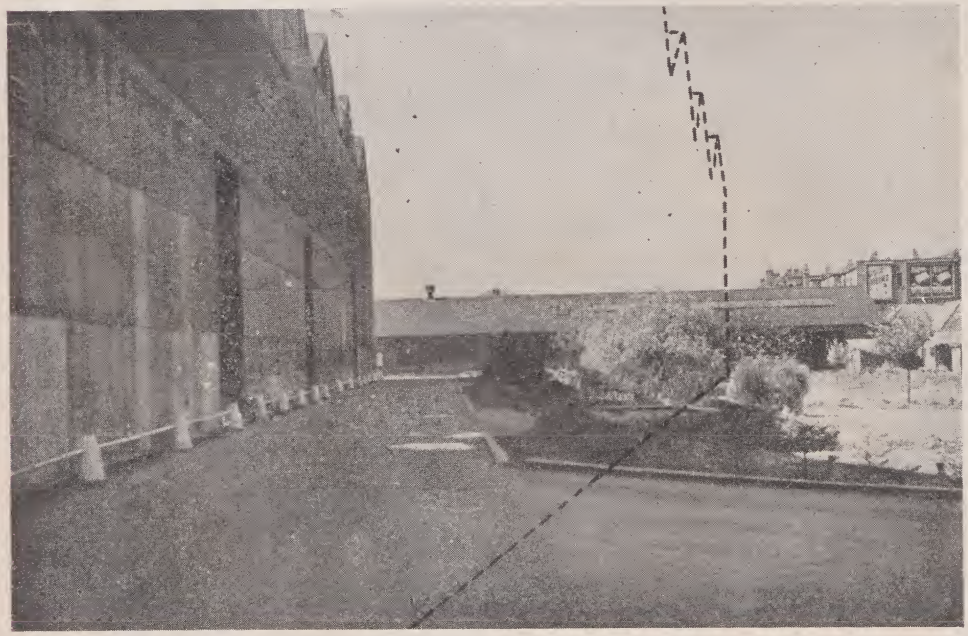

Picture illustrates how the main J and K stages at Elstree (Associated British) are to be rebuilt. Side wall is to be extended to the dotted line and offices and dressing-rooms are to be put up in the additional space. Present offices are to become extra stages. Main road is to the right

"KINE." SURVEY OF BRITISH STUDIOS

NAME OF STUDIO.	NO. OF STAGES.	SIZE OF STAGES.	LOT AREA.	TANK(S).	ELECTRICAL SUPPLY.	WAR DAMAGE.
BRITISH NATIONAL	4	C = 80 ft. × 112 ft. = 8,960 sq. ft. D = 80 ft. × 112 ft. = 8,960 sq. ft. B = 36 ft. × 61 ft. = 2,196 sq. ft. E = 80 ft. × 168 ft. = 13,440 sq. ft. **Total: 43,256 sq. ft.**	20 acres	25 ft. × 36 ft. × 8 ft.	Input 415 v. A.C. 3-phase; output 220-110 v. D.C. 1,250 Kw. rotary converters.	Roof lighting damaged.
BUSHEY ..	1	60 ft. × 40 ft. = 2,400 sq. ft.	—	——	6,000 watt sub-station from main Watford public supply. Construction rectifiers.	Used by Middlesex. C.C. for A.R.P. purposes.
DENHAM ..	7	(1), (2) & (3) 116 ft. × 76 ft. = 8,750 sq. ft. (4) & (5) 244 ft. × 144 ft. = 27,500 sq. ft. (6) 114 ft. × 114 ft. = 12,750 sq. ft. (7) 129 ft. × 114 ft. = 14,700 sq. ft. **Total: 108,700 sq. ft.**	160 acres	2 "wells." on Stage 4. Each 40 ft. × 60 ft. × 9 ft. = 13,000 gals.	Power station with output of 26,000 amps. D.C. With converters for A.C.	80 offices and large theatre destroyed by H.E.s.
EALING ..	5	(1) 52 ft. × 34 ft. = 1,768 sq. ft. (2) 126 ft. × 76 ft. = 7,576 sq. ft. (3a) 71 ft. × 85 ft. = 5,235 sq. ft. (3b) 71 ft. × 85 ft. = 5,235 sq. ft. (4) 80 ft. × 61 ft. = 4,880 sq. ft. **Total: 24,694 sq. ft.**	—	25 ft. × 20 ft. × 8 ft. 30 ft. × 15 ft. × 8 ft. 36 ft. × 20 ft. × 8 ft. 16 ft. × 8 ft. × 8 ft. 12 ft. × 8 ft. × 8 ft.	Ruston Hornsby Diesel engines. 7,500 amps.	Blast damage to stage roofs.
HIGHBURY	2	8,500 sq. ft.		(Studio controlled by Two Cities: used mainly for model and experimental work		
ISLINGTON	2	(1) 92 ft. × 63 ft. = 5,796 sq. ft. (2) 96 ft. × 46 ft. = 4,416 sq. ft. **Total: 10,212 sq. ft.**	—	50 ft. × 18 ft. × 8 ft. 26 ft. × 22 ft. × 7 ft.	4,800 amps. motor generators. Output 3,600 amps at 120 volts.	Considerable fly-bomb blast damage.
MERTON PARK	2	(1) 72 ft. × 66 ft. = 4,752 sq. ft. (2) (L-shaped) 42 ft. × 17 ft. with 18 ft. × 17 ft. annexe **Total: 5,772 sq. ft.**	—	——	115 Kva. at 230 v. A.C. 300 amps. at 115 v. D.C.	General blast damage to roof and inside plaster work.
NETTLEFOLD	2	(1) 88 ft. × 52 ft. = 4,576 sq. ft. (2) 100 ft. × 85 ft. = 8,500 sq. ft. **Total: 13,076 sq. ft.**	3 acres	1 on Stage 2	11,000 volt Rotary transformed to 3 wire 220 volt D.C.	Blast from flying bomb and general disruption after requisitioning.
PINEWOOD	5	(1) 165 ft. × 110 ft. = 18,150 sq. ft. (2) 165 ft. × 110 ft. = 18,150 sq. ft. (3) 165 ft. × 110 ft. = 18,150 sq. ft. (4) 110 ft. × 82 ft. = 9,020 sq. ft. (5) 110 ft. × 82 ft. = 9,020 sq. ft. **Total: 72,490 sq. ft.**	80 acres	3 interior 40 ft. × 30 ft., 1 exterior 70 ft. × 70 ft.	Own generating station. 2,360 kilowatts. 1 Battery of 10,000 ampere hour capacity. 1-1,000 h.p. E.E.C. Diesel 660 Kw. generator.	Not major.
RIVERSIDE	2	(1) 105 ft. × 75 ft. = 7,875 sq. ft. (2) 80 ft. × 60 ft. = 4,800 sq. ft. **Total: 12,675 sq. ft.**	—	——	Power to studio is 500 Kw. at 240 v. at 50 cycles, stages take 250 Kw. D.C. at 115 volts.	Not major; little blasting.
SHEPHERD'S BUSH	5	(2) 85 ft. × 40 ft. = 3,400 sq. ft. (3) 115 ft. × 55 ft. = 6,325 sq. ft. (4) 120 ft. × 85 ft. = 10,300 sq. ft. (5) 85 ft. × 71 ft. = 5,235 sq. ft. (6) 85 ft. × 65 ft. = 5,525 sq. ft. **Total: 30,785 sq. ft.**	—	47 ft. × 19 ft. × 9 ft.	E.H.T. supply 6,000 volts. 4 wire system. 3 phase 415 volts A.C. Studio stage lighting output 1,000 Kw. D.C. Motor generators.	Fire bombs burnt roof off stage 3 damaging canteen, carpenters shop and model dept. Roof burnt off laboratories.
SOUND CITY	6	(1) & (2) 150 ft. × 125 ft. = 18,750 sq. ft. (3) & (4) 100 ft. × 120 ft. = 12,000 sq. ft. (5) 70 ft. × 40 ft. = 2,800 sq. ft. (6) 100 ft. × 90 ft. = 9,000 sq. ft. **Total: 53,300 sq. ft.**	60 acres	2 36 ft. × 20 ft. 2 16 ft. × 8 ft.	440 B.h.p. Ruston Hornsby Diesels 400 Kw. giving an output of 17,000 amps at 110 v.	Two stages destroyed, theatre and cutting room destroyed. Two stages damaged.
WELWYN	3	(1) 59 ft. × 39 ft. = 2,301 sq. ft. (2) 82 ft. × 53 ft. = 5,246 sq. ft. (3) 99 ft. × 79 ft. = 7,821 sq. ft. **Total: 15,368 sq. ft.**	2 acres	30 ft. × 30 ft. × 8 ft.	2,800 v. from public supply. 2 Kva. 100 Kva. Hackbridge air cooled transformers. 2,800 a. 220 v. output.	Nil.

STUDIOS NOT YET

A.B.P.C. ELSTREE	4	4 stages 100 ft. by 150 ft. **Total: 60,000 sq. ft.** **Final floor area: 120,000 sq. ft.**	40 acres	(Four more stages to be built)	——	——
AMALGAMATED	4	**Total: 180,000 sq. ft.**	—	——	——	Structural damage when used as war factory.
BEACONSFIELD	1	115 ft. × 55 ft. **Total: 6,325 sq. ft.**		(Leased by Korda to the Crown Film Unit)		——
BRIGHTON (Projected)	4	200 ft. × 100 ft. each **Total: 80,000 sq. ft.**	40 acre site	(Building not yet started)	——	——
M.P. (Still held by Army.)	2	125 ft. × 90 ft. = 11,150 sq. ft. 60 ft. × 40 ft. = 2,400 sq. ft. **Total: 13,550 sq. ft.**	—	——	Electricity from local supply.	——
SOUTHALL (S. Box.)	1	57 ft. × 125 ft. = 7,125 sq. ft.	—	——	——	——
TEDDINGTON	3	(1) 126 ft. × 70 ft. = 8,820 sq. ft. (2) 135 ft. × 85 ft. = 11,475 sq. ft. (3) To be built with tank 135 ft. × 100 ft. = 13,500 sq. ft. **Total: 33,795 sq. ft.**	4½ acres	——	2 600 K.D.C. 575 Kw. 2 226 K.A.C. 113 Kw. Ruston & Hornsby Diesel engines.	——
TORQUAY	1	100 ft. × 60 ft. **Total: 6,000 sq. ft.**	—	——	——	——
TWICKENHAM	1	140 ft. × 80 ft. **Total: 7,200 sq. ft.**	—	20 ft. × 15 ft.	500 Kw. D.C. with mercury arc rectifier.	General blast and disrepair.
WEMBLEY	2	**Total: 12,252 sq. ft.**	—	——	North Met. 920 Kw.	——
WORTON HALL	3	**Total: 21,430 sq. ft.**	2 acres	——	2 Ruston Hornsby Diesels; output 2,500 a., 110 v., 250	Carpenters' and paint shop damaged by blast.

WHICH ARE NOW IN PRODUCTION

WAR DAMAGE REPAIRS.	EQUIPMENT POSITION.	CONSTRUCTIONAL PERSONNEL EMPLOYED.	CLERICAL AND OTHER STAFF EMPLOYED.	TECHNICIANS EMPLOYED (IF STUDIO IS PRODUCTION CO.).	FUTURE PLANS.	NAME OF STUDIO.
—	Short of rostrums, flats, scaffolding and general timber and plaster shortage.	290	140	100	A carpenters' assembly shop is in the process of being converted into another sound stage.	BRITISH NATIONAL
Studios reopened in April, 1946, after general re-equipping and overhaul.	Good. New equipment includes Vinten cameras, Leevers Rich recorders and Hewitt lights.	16	8	20	—	BUSHEY
Theatre completely rebuilt and re-equipped by May, 1943. Office block yet to be built.	Satisfactory. Large orders for new gear including both Mitchell and Newall cameras and more camera cranes.	800	100	100 sound projection and camera maintenance.	Company has acquired complete property stocks of J. S. Lyons and Studio Hire Service. New offices will be built.	DENHAM
All damage put in order	Orders placed to cover all shortages.	240	130	130	Additional floor space will be provided together with more cutting rooms, review theatres and offices.	EALING
—	—	—	—	—	—	HIGHBURY
Temporary repairs made to all premises.	Satisfactory. New equipment will be added.	123	41	27	Not qucted.	ISLINGTON
All damage repaired	Present equipment in workable condition. Large orders for new gear have been placed.	31	22 (at Guild House) 30 (At Merton Park)	121	Extension of Power House and D.C. supply. Recreational centre. New review theatre.	MERTON PARK
All repaired	Good. Debrie super Parvo Cameras. Velocilator. RCA Sound system. Hewitt new type lamps. Short of arcs.	Not quoted	10	126	Remodel stage. Dubbing theatre on lot.	NETTLEFOLD
Nil	General shortage of modern or up-to-date equipment, but substantial orders placed for new equipment.	450	80	20	Under discussion but powerhouse extension is being put up now.	PINEWOOD
—	Present equipment in good order. New gear will be acquired. Cameras: 2 Mitchells, and 3 Debrie.	100	50	25	No plans have been made by the company.	RIVERSIDE
Temporary repairs to all departments.	Shortage of arc lamps, modern cameras, office equipment, wardrobe stores in particular.	265	167	179	Nothing set.	SHEPHERD'S BUSH
One stage, theatre, cutting rooms now rebuilt. Damage repairs have been made.	Short. Much on order	Figures witheld. Approximate figures have been used in total analyses.			One stage to be rebuilt.	SOUND CITY
Nil	Latest Mitchells' Velocilators, Crane & Mole-Richardson lighting in course of being supplied.	149	36	60	The company says: "Announcement will be made shortly."	WELWYN

IN PRODUCTION

——	Large orders have been placed for new equipment, some of which has been delivered.	—	—	—	(Studio is being elaborately reconstructed.)	A.B.P.C. ELSTREE
Repairs are now being made.	——	—	—	—	——	AMALGAMATED
——	——	—	—	—	——	BEACONSFIELD
——	——	—	—	—	Completion of two stages may be by Dec., 1947.	BRIGHTON (Projected)
——	Mole-Richardson lighting. Two Newall cameras on order.	—	—	—	Religious films to be made for Rank organisations.	M.P. (Still held by Army)
——	——	42	—	—	Property acquired next to studio for new stage.	SOUTHALL (S. Box)
——	——	60	100	50	When studio is completed to its pre-war design, an additional stage (3) is to be put up.	TEDDINGTON
——	——	—	—	—	New stage is to be built.	TORQUAY
——	——	—	—	—	No plans set.	TWICKENHAM
——	——	—	—	—	——	WEMBLEY
All repairs made.	——	100	17	26	Studios, released by the Government last year, is preparing for early production.	WORTON HALL

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"No American-Sponsored Production Ought to be Allowed Here at the Expense of British Units"

says

PAT MANNOCK

WITH the demand for British pictures likely to remain far in excess of the supply for many months to come, those who are impatient of delays to expansion at least have time to survey the studio scene in terms of the future. The year 1946 will almost certainly see the establishment of conditions, as regards individual set-ups, calculated to determine the destinies of native production for some years to come. The Industry is becoming more organised every day; and this may mean some loss of flexibility.

It is necessary to take a long view of the situation. One of the healthier trends in the past few months has been the restoration of what our studios have sadly lacked for some time—competition. It is looming in several quarters; and the advent of independent producers, though very limited in numbers and apparently cautious in action, must be regarded as a good sign from every point of view.

What is an Independent?

But what is an independent producer? To draw a hard and fast line is not easy to-day. It has always been risky to make pictures without an arranged release; to-day it is positively foolhardy. Yet an agreed distribution in these times is a direct alliance, and financing, though usually kept a dark secret, is often part of the bargain. In practice, no unit can afford to be independent in the sense that there is a completely open market for any finished picture.

Even when taken a stage further—a renting organisation in direct association with a producer—" independence " is little more than a glorified figure of speech. For the commercial advantage of one of the two major circuit bookings is enormous—so formidable, in fact, that it decides the production policy of any studio-renter enterprise. In theory, of course, bookings from independent exhibitors should be the standby of such production; but though these are numerically a majority, they compare neither in returns nor in solidity.

A few weeks ago the Government gave evidence of having devoted some thought to the question of the independent producer. Sir Stafford Cripps announced in the Commons that, by arrangement, the major circuits would give more playing time to British films manufactured outside their studio orbit.

Details of this unprecedented step are lacking; how it is to be implemented is far from clear. Some 1,500 of this country's best halls are " tied houses " in something of the same way as are brewery-owned public houses; and if the Government gave outside brewers selling facilities in such taverns there would be a chorus of protest. It says much for the broad outlook of the circuits that they have consented to such a far-reaching modification of perfectly legal trading practice.

Laudable Intention

However well or ill such machinery will work, the intention is laudable, and the spirit in which it has been proposed and accepted should hearten the independent British producer and encourage his financial backing.

At this point one may fairly ask : how is the independent likely to reap any immediate benefit? You must have films before you can sell them; does this dispensation help the independent to turn out a single extra picture under existing conditions? Hardly. Space in studios must be earmarked many months ahead. Sir Stafford is not ensuring any particular place in the sun among producers queueing for floors. Give the independents the tools and they will deliver the goods.

In the face of the situation that confronts us, the calm announcements that 20th-Fox and Paramount contemplate building their own British studios amount to a joke—and, like all the best jokes, it has an undercurrent of pathos. " When conditions permit " is the phrase used; a qualification which has a touch of irony. We may dismiss any thought of immediate competition of this kind, though later on we will welcome American rivalry in our midst.

Not So Funny

What is less of a joke, and worthy of some serious attention, is the declared intention of American production to acquire studio space at the earliest possible moment.

My personal opinion is that no American-sponsored production ought to be allowed in Britain at the expense of British units—that is, until the vast British programmes already prepared (by combines and independents alike) have their chance of getting under way.

I lay this down as a broad principle, dictated by no anti-American feeling whatever, but purely by a state of affairs which is gravely hampering the expansion of a native industry at the very time when its national expressiveness, and consequent popularity, is at its peak.

At the same time, I feel strongly that if American units encroach on our existing space, it will be largely the fault of the independents, who, making every allowance for difficulties, do not seem to be getting enough move on. For the purposes of non-circuit production, one can include M-G-M-British among the independents. Their impressive list of subjects show little sign of realisation. But, after all, M-G-M can well look after themselves. On a different footing is the British Lion-Korda set-up; and it would have been encouraging to find this important new competitor by this time actually shooting something.

I suggest that the least that can be done is to reserve all available space for British enterprise from now on—with permission to relax this rigid regulation if special circumstances warrant exceptions.

Safety Measures

The British Film Producers' Association should boldly take up this matter, and, with proper endorsement by other bodies if necessary, be invested with power to allocate space on an all-British basis. This is no advocacy of insular, flag-waving nationalism, but a counsel of ordinary safeguarding of an important national Industry's vital needs—the very means, in fact, of its continuance. While well-meant American enterprise is trying hard to secure immediate studio facilities around London, a British unit has just finished making a subject in Rome studios; and we are even angling for any facilities in Paris, the Riviera and Germany that may come into being.

Over the past quarter of a century the British showman has been repeatedly alarmed at the acquisition of halls by American interests, and it cannot be said that even to-day he regards the Warner holdings in A.B.C. with particular enthusiasm. Now that he is finding British films as popular as they were formerly unpopular, he should be equally concerned over any move which may interfere with their steady and increasing supply.

We are to-day vigilant over any inroads into our scanty newsprint supply; but the proposals to allot American interests studio space can only be compared with proposals to allot them our printing presses.

Speeding Up Schedules

Another significant trend in studio adjustment is to be noted. There is evidence that J. Arthur Rank is resolved to speed up production schedules. This is the best news for months, and I hope it is true.

I predict that many of the " alibis " of war-time and peace-time difficulties will be well and truly punctured, the egos of more than one production chief thoroughly deflated, and that the result will be an end of the racket—it is little more—of British films taking four times as long to make as Hollywood's.

Above all, it will mean available space—for those entitled to priorities—and an increased volume of subjects all round.

Hollywood Floor Famine

As I write these lines, an illuminating sidelight on the situation already outlined above comes from the current issue of that unique, adorable publication *Variety*.

I read with intense interest that the studio floor shortage in Hollywood has assumed grave significance. Independent producers (how illustrative these parallels are!) are queueing up for space for many months ahead, and real money (as distinct from the trifling few millions similarly hamstrung in this country) is being thwarted from its scheduled objective of investment in production designed to solace the world's rattled inhabitants.

This may partly (if not fully) explain the sudden increase of interest is our studio floors on the part of American executives. A fulfilment of expensive programme commitments might be feasible if Hollywood units, or Hollywood-sponsored projects, on any basis of distribution, could increase output by the manufacture of films in this country.

It may be that I am entirely mistaken; that there is no design to use our cramped and restricted facilities as a substitute for Californian lots. But it is excusable to connect the two circumstances—inquiries for British space " right now," and the Hollywood floor famine. On that I suggest that American production *lebensraum* might be steered off our floors (which we should keep for all-British subjects) and diverted to Italy, France, Bavaria—or even Mexico. Our strict (if temporary) slogan to-day should be : British floors for British films.

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"STARS ARE MADE, NOT BORN, AND THIS IS MY FIVEFOLD PLAN FOR GROOMING THEM"

Long-Term Security and Continuity from the British Industry is Then Required to Keep Them

By SYDNEY BOX, Britain's Leading Independent Producer

MILLIONS of people in Great Britain go to the kinema every week. Other millions in the United States do the same. So do hundreds of thousands in South Africa and Australia. What makes them go? Habit and the desire to be amused. Yes, but what makes them go this week to the Hippodrome on one side of the street, instead of the Plaza just opposite—and to the Plaza in preference to the Hippodrome next week?

The answer is—*stars.*

Once accept the fact that the world has the motion picture habit and likes to go to the kinema, there are five main reasons why audiences should go to one picture in preference to another—because of the advertising, the criticisms in the Press, the director, the author, or the star.

And the greatest of these is the star.

Only one director I know of can bring people into the kinema on his name alone—Alfred Hitchcock—and he is too smart to try to do so, preferring to leave at least some of the work to Bergman and Peck. One or two authors—Daphne du Maurier is one—can pack them in. Unanimous praise from the critics can do a great deal. And the right sort of advertising can fetch the shillings of some of the people some of the time—but making good advertising without stars is like making bricks without straw.

Four tickets out of every five at the box-office this week—and next week—and next year—are bought because of a certain star.

The mere placing of an actor's name above the title of a film has no effect at the box-office unless the name so placed is known and recognised by the people who pass the theatre's doors. Good acting, then, is not enough. Personality is not enough. Beauty is not enough. Because stars, let's face it, are not born, *but made.*

America has been making them for 30 years. We have been toying with the idea for four or five years. And unless we stop toying with it and get down to working on it in real earnest, we might as well give up all idea of world markets now.

The Building Process

The process of building a star is as simple as the process of building a house. There are five main stages in the process—find the right raw material; train that material properly; see that prospective stars get the right parts; see that the public hears about them; ensure that they receive reasonable rewards for their work.

Hollywood has been doing these things for so long that its method is well known, tried, tested and proved successful.

Can we do the same?

Well, let's examine that possibility. First, the raw material. Hollywood, you may say, has more to choose from—a vast polyglot population of its own, and the ambitious boys and girls of the world flocking to its doorstep every day. True, but consider the record of Great Britain in the star-building stakes.

The other day my family amused themselves on a wet afternoon by making a list of the British actors and actresses who had achieved fame in Hollywood pictures in the last ten years. In half an hour they had listed over 150. Picking from their list at random (and in alphabetical order), I selected such names as George Arliss, Freddy Bartholemew, Clive Brook, Madeleine Carroll, Gladys Cooper, Charles Chaplin,

Donald Crisp, Ronald Colman, Errol Flynn, Geraldine Fitzgerald, Greer Garson, Richard Greene, Bob Hope, Leslie Howard, Boris Karloff, Angela Lansbury, Charles Laughton, Ida Lupino, Stan Laurel, Vivien Leigh, Ray Milland, Herbert Marshall, Roddy McDowell, David Niven, Merle Oberon, Laurence Olivier, Claude Rains, Basil Rathbone, George Sanders.

If we can provide 30 names like that for Hollywood, we can easily do the same for ourselves!

There is no shortage of candidates for the future. I suppose I get an average of 200 letters a week from would-be stars. And anyone who doubts that we can go on producing the world's best stars need only look at the offers James Mason is now receiving from Hollywood to be convinced that Britain still breeds them.

Having found our raw material, the next step is to train it properly. This is the most vital stage of star building, and the one in which we have so far failed.

Training Raw Material

The usual process in this country has been to find a promising youngster, put her on contract, let her sit at home for the next two years eating her heart out because nobody seems to want her to act—and then decide that, as she has drawn two years' salary for doing nothing, there must be something wrong with her. So the contract is not renewed, the two years' money is wasted—and the young actress goes straight off to Hollywood and becomes the new Greer Garson. *Because* in Hollywood the raw material of stardom is groomed with care by a group of experts recruited by each studio for that purpose. Attention is paid to voices, hair, clothes, figures, acting, and instruction in the technique of film production.

Above all, the raw material is made to feel that it is wanted and is expected to work. And at the end of two years we see experienced starlets instead of disillusioned and forgotten men and women.

There is no reason why we should not do the same with our youngsters—no reason at all, except that it is a great deal of trouble and pretty expensive. I know just how much trouble and expense it involves, because I have been doing it for the last six months.

The Company of Youth, which I founded at Riverside back in December and which will go to Gainsborough with me later this year, has, as its object, the grooming of young people for careers in the film Industry.

Our youngsters are expected to come to the studio every day—and work. Of the first six members of the Company, one is already playing a long featured rôle opposite Ann Todd and Eric Portman—and the other five have all appeared in at least one part. They won't all turn out to be great stars—but if we find one winner in every dozen we shall be satisfied.

Selecting Parts

Now that we have found our material and trained it, the next operation is to see that the boy or girl who has cost us so much time and trouble gets the right parts to play.

The moment that hurdle has been taken, it is time for the public to hear about him. There is no point in giving a youngster a break unless the public knows that you have done it—knows why you have done it—knows the colour of the young man's eyes or the young woman's hair. No point, in fact, unless a full-scale publicity campaign is employed to sell to the public the goods you have manufactured.

We are only just beginning to understand publicity in this country; but the advertising budgets for films in the future must bear comparison with those for soap and tooth-paste. If they don't, we shall be neglecting our customers and our markets.

And advertising in this country is not enough. We have got to go into the overseas markets with at least the same punch as our competitors. Nearly every big Hollywood picture at the moment is "pre-sold," with full-page advertisements in the women's journals and the weekly and monthly illustrated magazines. Until our best pictures are given similar treatment, we shan't be able to compete on equal terms in the U.S.

Frequent Appearances

Finally, having made our stars, we must learn to keep them. This is probably the hardest thing of all—but there are ways of doing it. We are already paying our stars, on an average, as much as they could earn in Hollywood. They have in this country more freedom than they would be allowed in a Hollywood studio. But, so far, they have never been able to depend on long-term security and continuity from the British Industry. We have got to give our stars that if we are going to keep them.

One of the most important things to a star is to know that he will be working next year on two or three pictures—that the scripts will be ready for him before the pictures start—that a producer and director are already chosen—that the studio space is allocated—in brief, that someone is thinking about his future and ensuring that he will have a future.

Stars depend on pictures just as much as pictures depend on stars.

Unless they are kept up there on the screen and the marquee, they are very soon forgotten, and the nightmare of every star is a year in which he doesn't make a picture. Consider the most successful job of star building in the British Industry to-day—that done by Gainsborough—and you will find that the reason we know and love James Mason, Margaret Lockwood, Phyllis Calvert, and Stewart Granger is that we were allowed to see them in three, and sometimes four, pictures a year, year after year, until they became as well known and as warmly welcome as Garson and Gable.

An American producer once said to me, "Our flag would look very dull without its stars—and so would our films. In fact, if there weren't any stars, there wouldn't be any film business." I think he was right—and I know that without international stars there won't be any international film business for Britain.

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SHORTER SCHEDULES ARE ESSENTIAL IF WE ARE TO REDUCE FILM PRODUCTION COSTS

More Floor Space and Equipment Must Also be Available

By RONALD NEAME, Producer of Cineguild's "Great Expectations"

PRODUCTION costs have got to come down if we are to keep in business. Nobody will deny that. How are we going to get them down? There is only one way—by stepping out of this "fool's paradise" that we have been living in for the last three years and facing facts. There is only one satisfactory way to cut production costs, and that is to cut production schedules.

The average American film takes between eight and ten weeks to shoot, the average British equivalent anything from 12 to 16, sometimes longer. Don't believe the visitors to Hollywood when they come back and say: "Hollywood takes just as long as we do." The U.S. Industry has got its "bad boys" just as we have, but they are the exception that proves the rule.

There are two main causes for our long schedules:—

1. Inadequate stage space.
2. Inferior equipment.

And until these two problems are dealt with there is little chance of production costs coming down.

Twentieth Century-Fox has at its disposal more than 20 stages, and seldom has more than five feature productions on the floor. Metro-Goldwyn-Mayer has nearer 30 stages, and seldom has more than seven feature productions on the floor. In other words, the big companies of America consider that four stages to each production are essential for efficient working.

And so they are.

An enormous amount of money is thrown away in British studios every year because of the shortage of stage space.

Last Minute Scramble

There is always a last-minute scramble to get a set finished in time for the unit to shoot on it, and dozens of men have to work many hours of overtime, and sometimes all through the week-end, at double time, because a set cannot be put up until the previous one is struck, whereas with additional space both sets could have gone up concurrently.

In all Hollywood studios there are numerous stock sets, such as theatres, railway stations and streets, which are always standing, and are available to all productions, thus cutting out the necessity of continually building the same set. Many thousands of pounds per annum could be saved were it possible for us to operate that system here, but *lack of space* makes it impossible. Endless hours are wasted on the floor because of congestion and because one set interferes with efficient shooting by its proximity to other sets.

So much for stage space.

Equipment Shortage

And now let's look at the equipment situation. A camera costs approximately £2,500. There is scarcely a camera being used in British studios at the moment that hasn't cost in delay many times its original purchase price!

Production ticks up at about £1,200 per day. Two days' retakes for a faulty camera will cost the price of a new one.

Thanks to Arthur Rank, the camera problem will soon be solved. Fifty new cameras will be available soon, but what about all the other worn-out equipment which is seriously handicapping work on the floor?

Do the studio companies realise that when cameramen and sound men ask for their equipment to be replaced or overhauled it is not a question of bad workmen complaining of their tools, but a plea for help from craftsmen who are anxious to get on with their job with the utmost efficiency.

Most of the lighting equipment with which we are working at the moment is completely unsatisfactory. Arc lights flicker, and when they are not flickering they hum, and when they are not humming, they go out altogether. They are causing many thousands of pounds in delay, and they *must* be put right.

Camera cranes are out of date. There isn't one in the country that is capable of carrying the Technicolor blimp.

Back projection equipment is so antiquated that the director dreads having to shoot with it.

Sound equipment is old-fashioned and is held together with camera tape. I am told that the microphones being used at the moment are of a type that was discarded by Hollywood years ago.

Taylor, Taylor and Hobson makes the best lenses in the world. This is a British firm. And yet, although Hollywood is equipped with the latest lenses, British cameramen are working for the most part with a type that was obsolete as long ago as 1937. All this is nobody's fault.

The country has been at war.

But if we are to make our pictures in ten weeks instead of 16 and cut many thousands off the cost—and we must do so—we have got to put these things right, and put them right quickly. Even if the studios show a loss instead of a profit during the next two or three years, they will be more than recompensed by the healthy and financially sound Industry which will result.

There is a school of thought which maintains that it is partly because of our limited facilities that our films have taken unto themselves an originality and truth which is not apparent in the highly polished product of America.

This, in my submission, is rubbish.

Directors like Carol Reed and David Lean make good pictures not because their cameras are always giving trouble, or because they are using out of date microphones, but because they are first-rate film men, and when the technical handicaps from which they are now suffering are removde they will make even better pictures, and what is more they will make them in ten weeks instead of 16.

First Rate Craftsmen

The photography of cameramen like Freddie Young and Guy Green is good, not because the arc lights flicker, not because their lenses are obsolete, but because they are first-rate craftsmen, and when they are given the same facilities that Hollywood give to their cameramen, they will go from strength to strength, and will play a big part in cutting that schedule.

Years ago Hollywood realised that money spent on stages and equipment was an excellent long-term investment which would pay handsome dividends in shorter schedules, and for the sake of the future of the British film Industry we, too, must learn that lesson.

"If We Must Exchange Technicians it Must be on a Two-Way Basis"

By GEORGE M. ELVIN, A.C.T. Secretary

THERE is a very serious danger that in building for the future we shall slip back into the ways of the past.

The lessons of the war years may be forgotten. Then, as in other spheres, British films had to rely on their own resources. Ingenuity and tape had to keep old equipment in service. British technicians made their films unaided by those who previously were claimed as necessary to teach them their jobs.

The films themselves found inspiration in British ways and British life. The stark realities of life in Britain were a far better inspiration for films than the escapist, unreal background of Hollywood.

Now, what is happening?

Producers and studio owners are applying for permits to import equipment from abroad. They are seeking permits to bring over technicians. They are, in many cases, no longer making British films, but producing films conceived and designed either in Hollywood or, perhaps even still worse, planned over here as something which it is thought Americans might like because it is the same style of production as comes from their native Industry.

This is just not good enough.

As Anthony Asquith said in his presidential address to the recent A.C.T. annual general meeting: "America is the best place to make American films, and Britain the best place to make British films. Our films should be international in appeal just because they are national in character."

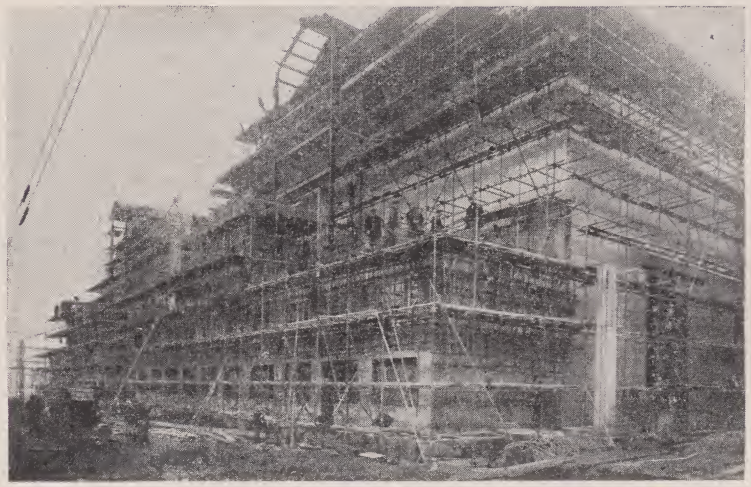
That does not, of course, imply a narrow nationalistic policy. We should always be willing to learn from those who can teach.

On the question of foreign technicians, for example, A.C.T. has made clear that, whilst it claims British technicians are second to none, it would welcome the exchange of technicians between one country and another. But such exchange must be on a two-way basis. Not one way only, as before the war. Similarly, with equipment, we don't see why there should not be a greater pooling and exchange of ideas between the various equipment companies. Along these paths lies progress.

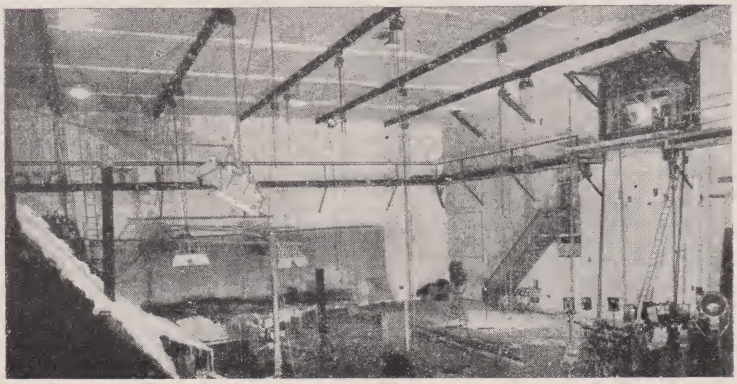
My hope is that in the period of reconstruction and rehabilitation the British Industry will retain the superiority complex it acquired during the war; that it will increase its volume of output as speedily as possible; and that, whilst doing this, it will never underestimate the capabilities of our technicians and equipment, nor the fact that, to be successful, our films must give to the world something which no other country can contribute—a genuine British quality.

"QUIET PLEASE!"

Remember the headaches that developed when sound hit the studios in the late twenties? Not the least of them was the problem of creating suitable recording conditions in buildings where acoustic qualities had never before been considered. Cullum experts were called in and, from those early days onwards, almost every major British studio has been sound-conditioned by Cullum. Why? Because Cullum Rock Wool treatment, scientifically applied, can provide ideal recording conditions—and, in nearly twenty years, no other system has been found to equal its efficiency and simplicity.



300,000 square feet of Rock Wool used in 7 sound stages at Denham (installed in 1936). The scoring stage destroyed during the war has been rebuilt and treated with Cullum Rock Wool.



A typical British Film Studio acoustically treated with 4" thick Rock Wool.

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Gaumont British (Lime Grove)

Rock Studios, Elstree

Movietone

B & D Studios (original)

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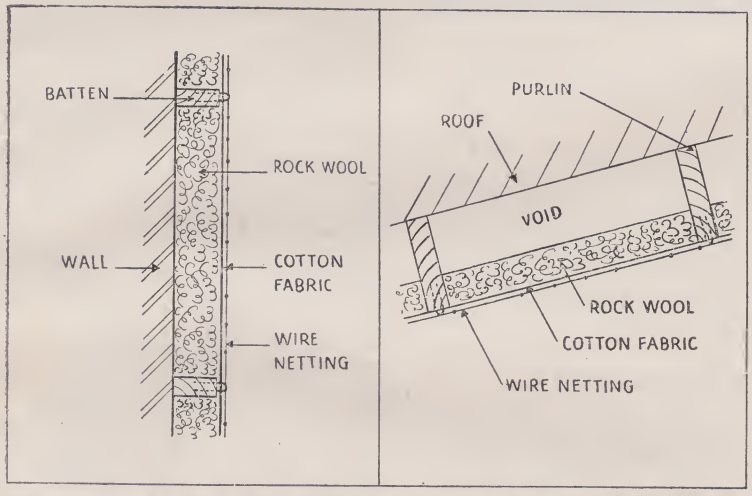

Photograph showing finished appearance of wall. This example is 10 years old but is still giving 100% of its original efficiency.

Wall treatment. Battens are fixed to the wall and the Rock Wool element placed between them. The whole surface is then covered with cotton fabric and finally covered with wire netting, both being secured to the face of the battens.

Ceiling treatment. The Rock Wool element is usually placed between the roof purlins, leaving an insulating air space behind and is supported on wire netting secured to the underside of the purlins.

Note to Architects

Acknowledged experts in the field of sound conditioning, Horace W. Cullum & Co. Ltd., have a long and successful record in film studios. Every architect who is concerned with studio design and construction can with advantage make use of Cullum's extensive and practical experience in this specialised and highly important branch of film architecture.

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THERE IS WIDE SCOPE FOR FACTUAL FILMS IN A WORLD THAT IS MOBILISING FOR PEACE

Developments in the Propaganda and other Non-theatrical Fields

By PAUL ROTHA

ONE day a survey will be made of the service that documentary, educational and training films gave to this country during the six years of the war. It will come as a surprise that so many films were made by so few people. Apart from the valuable work done by technicians actually in the Service film units, and the steady production output of the Crown unit, the great bulk of the documentary needs of the Ministry of Information was met by civilian units.

These independent units—independent in the sense that they are not linked financially to the feature side of the Industry—had no priority on equipment or first call on laboratory service, only a bare minimum of personnel deferred from military call-up, and a system of control over contracts and costing by the Treasury which almost eliminated profit-making. Compared with the output of 1939, the overall documentary output of the war was remarkable, both for its quality and its development of new techniques. This was partly due to the M. of I. staffing key-posts in its Films Division with people who had documentary training and experience, and partly to the freedom permitted to individual units in how they should handle subjects. I hope that the new Central Office of Information will continue this wise policy.

Change-over to Peace

Faced with conversion to peace-time production, the independent units to-day have a common policy expressed through the Federation of Documentary Film Units. The Federation is aware that, although documentary's reputation never stood higher, there are some tough problems ahead.

First, subjects in peace have to be made as exciting as were subjects in war, but without the help of the inherently dramatic action material from the combat fronts. While the non-theatrical output of informational and educational films will rise and the quality improve, the dramatic documentaries on social themes intended for theatre release will be very difficult to make. Big and inspiring subjects, on both national and international levels, will be wanted by the new Central Office of Information and by U.N.O. and U.N.E.S.C.O.

These will be stories of Britain and a world mobilising from peace, but they will be harder to dramatise than the films of bombers, tanks and submarines.

Paul Rotha (right) directing a scene during the shooting of his housing film LAND OF PROMISE

Beyond these Governmental and official needs, the big national organisations, the municipalities, and possibly the trade unions and the Co-operative Societies will be wanting films. The requirements of the Ministry of Education's visual units alone are likely to keep many technicians fully occupied. By the way, there is much experiment to be done in this new field of visual education.

Dependent on Sponsorship

The genuine documentary producer is dependent on sponsorship for production because the revenue from commercial distribution does not repay the cost of quality production. Speculative production of documentaries, as opposed to sponsored production, will always depend on exhibitors. Overwhelming evidence shows that audiences *want* a reasonable inclusion of good quality factual films in their programmes. Some exhibitors, however, are reluctant to spot the new trends in public taste, so accustomed are they to the old-established make-up of their programmes. One day all that will change, and producers will have a free choice of sponsorship or speculative investment.

The Board of Trade's attitude to documentary in the matter of allocating screen space to independent pictures will be worth close attention. If exhibitors do not cater for this new demand the rapidly growing non-theatrical field will. Exhibitors will have only themselves to blame. It will be futile then to talk about unfair competition. The spread of documentary distribution by non-theatrical methods represents the fulfilment of a very real need, not something that can be quelled by C.E.A. branch meetings.

Equipment Shortage

One serious problem immediately facing documentary makers is the shortage of good equipment and the lack of suitable studio space. This is particularly acute in the sound-recording field. During the war, we have used synchronised dialogue on location, studio-played scenes, big orchestras for specially written music, and complicated sound-tracks to a greater extent than before. For six years we have "made do," fitted in alongside feature pictures, used facilities which were pressed to the utmost as and when we could get them. Now something different must be done.

Documentary techniques often require facilities different from studio pictures. Sound-tracks, especially, are more complex. Here is a tremendous chance for British equipment makers, if they will grasp it.

Finally, the vital question of personnel. Our methods of training and our policy of full employment are well known. Without them it would have been impossible to have kept up with the Government's film programme in war. Even in those years we steadily trained new technicians in that discipline which is implicit in the documentary tradition.

To-day, there are more would-be entrants to documentary than we can absorb. Not only men and women returning from the Forces, but men and women from the universities, from education, science and economics, seeking the opportunity to use the film for serious purpose. Their numbers greatly exceed the time which producers can spare for training. This is one of the healthiest aspects of documentary to-day, that so many men and women are eager to contribute to this ever-widening use of the screen for public service.

Demands from Overseas

Although much of documentary's energy will be given to the home market, the international field will have heavy demands. In addition to the films the Central Office of Information will commission for export, both U.N.O. and U.N.E.S.C.O. will want films for world distribution. The exchange of factual films between member countries of U.N.O., and the special needs of re-educating the defeated peoples, will see the screen being used more and more as a contributor to social progress. Nothing, except another war, can stand in the way of this development of a world documentary kinema.

Russians Discuss British Documentary Film-Making Technique

RUSSIAN film workers have been debating British documentary film technique. The Russian workers were shown, among other films, "Children of the City," "Architects of England," "When We Build Again," and "Song of Ceylon."

Here are some of the typical comments:—

Director Morgenstern said: "The authors of these British films have devised their own forms for presentation of the architectural subject; the camera never stands still, it is constantly roving. . . . But architecture has its own rhythm, and in breaking this rhythm by inadequately reasoned camera movements, the authors, while creating an outward illusion of motion, impinge on the architectural form itself."

The scenarist, Mikhail Vitukhnovsky, analysed the film "Song of Ceylon," describing it as "a good ethnogeographic travelogue, giving a good idea of the flora and fauna of Ceylon and of its inhabitants."

Professor Sukharebsky and Feffer, both scenarists, dwelt on the qualities of British medical films, and referred to them as excellent examples of how medical subjects should be presented in films.

After the discussion, the members passed a motion to continue arranging such viewings and discussions of foreign scientific films, as this helps in a better understanding of the common problems facing scientific kinematography in general.

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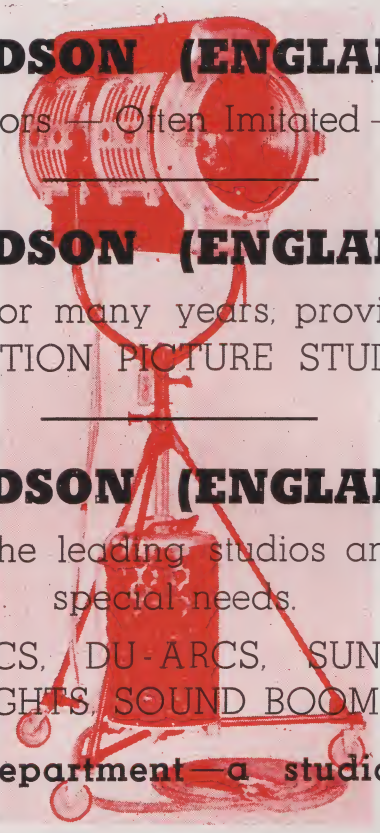

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THE PLACE OF PLASTICS IN FUTURE FILM MANUFACTURE AND SENSITISATION

Base and Emulsion Keyed Together in New Negatives

By T. THORNE BAKER, F.Inst.P., A.M.I.E.E., F.R.P.S.

KINEMATOGRAPH film, with both base and emulsion formed of newly discovered plastics, is seen by T. Thorne Baker as the picture-strip of the future. The ability to produce synthetic plastic of unvarying quality removes the "chancey" nature of some of the substances employed in film manufacture and sensitisation to-day.

We are constantly reminded by both newspapers and the technical Press that we have entered upon a new era—the age of plastics. The plastic era actually began half a century ago, because celluloid film base is definitely a "plastic" material—guncotton plasticised with camphor; so kinematography is, in reality, an old hand at plastics—almost the father of the industry! It is good to know, too, that it was an Englishman, Alexander Parkes, who, in 1864, discovered nitrocellulose, or guncotton.

It is, however, with the newer synthetic plastic materials that we are concerned, and in discussing their potentialities in the kinema industry we must bear in mind the definition of a plastic—a substance which will assume a new shape when subjected to heat or applied pressure and will retain that shape afterwards when the pressure is removed. A plastic which can be cast, rolled out or pressed into a continuous sheet, is obviously a material that might compete with celluloid or cellulose acetate base, and it is hardly necessary to say that experiments have long since been made in that direction. We are already familiar with the polyvinyl tablecloths and curtain materials that are being marketed. It would not seem to be a long step from such materials to a substitute for film base.

Variability of Gelatin

Another aspect of plastics is the constitution of the sensitive emulsion with which the base is coated. This is at the present time a suspension of minute particles or grains of silver bromide or iodo-bromide in *gelatin*. It has been found quite impossible to stabilise the manufacture of gelatin, or to produce a material of uniform quality and composition.

Gelatin is prepared from hides and other parts of animals that have fed on various kinds of pasture. The amazing influence of infinitesimally small quantities of vitamins in foodstuffs upon our health makes it easy to realise what important differences may be caused by the life-history of the animals from which the gelatin is eventually extracted. Indeed, it is common knowledge that the sulphur compounds which are responsible for the speed of modern emulsions occur in the gelatin in the proportion of one or two parts only per million. The choicest and purest gelatins only can be used in the preparation of photographic emulsions, and even then their selection is one of the most exacting duties of the film manufacturing laboratory.

Imagine now a synthetic plastic, made from fully known and controlled materials, substituted for gelatin in the emulsion itself—a plastic sensitive film coated upon a plastic base. Such a combination should open up the way to a product of readily controlled uniformity and excellence. This is not an idle dream, as a reference to recent patent specifications will reveal.

The type of plastic that may be used in both film base and sensitive emulsion is a thermo-plastic, which can be moulded under heat and pressure, retaining its form on cooling and on being released from pressure, but capable of being softened again by heat. The polyvinyls and cellulose esters figure in this type.

Thermo-setting plastics, on the other hand, are moulded under the influence of heat and pressure, but once set, remain indefinitely in the moulded shape. Such materials are, of course, used largely to-day in camera construction and in the making of moulded parts for photographic apparatus.

What are Plastics?

The question may reasonably be asked: "What is a plastic—and of what is it composed?" Plastics are organic compounds; that is to say, compounds containing the element carbon, which are made up from simple beginnings by the process of polymerisation. Marsh gas, which we see bubbling on the surface of pools covered with decaying leaves or vegetable matter, has the chemical formula CH_4, four atoms of hydrogen combined with one atom of carbon, a fully satisfied or saturated molecule.

A simple, but unsaturated, combination of one part of carbon with two of hydrogen, CH_2 is known as vinyl, and $CH_2CH.Cl$ is vinyl chloride.

Now, by new chemical processes, a large number of such groups can be made to join up and to form very big molecules of polyvinyl chloride, one of the most interesting plastics from the kinematographer's standpoint.

Advantages of Permeability

In a particular case polyvinyl acetates have been used as substitutes for gelatin in the making of sensitive emulsions. Certain Kodak patents relate to the use of polyvinyl acetal resins. These have a very useful permeability to water, which is all-important. Suppose, for example, that we made a silver bromide emulsion in celluloid; when dry, the celluloid being waterproof, the processing solutions could not penetrate the film, and development would be impossible.

But a mixture of water and an organic solvent, such as acetone, suffices to keep the plastic in solution, and the necessary silver nitrate and potassium bromide, also in solution, can then be added just as they would be to a solution of gelatin. On brisk stirring the precipitate formed by the mixture of the silver nitrate and the bromide becomes dispersed in the resin, and a plastic emulsion is made. Such an emulsion, when dry, is sufficiently permeable to water to admit of processing, etc.

Emulsions have been made also with cellulose esters, or "salts" of cellulose, which form a plastic film that carries the sensitive salts, and which is again permeable to the various processing solutions. The degree of permeability can, however, be varied from fully water-permeable to completely non-permeable, and here we have an almost ideal conception realised—the sensitive film and its support being all of one basic material. Not so easy, nevertheless! It took considerable research to find how to anchor the gelatin film to the base in the case of celluloid film. More difficult still was the problem of keying the emulsion to cellulose acetate.

One solution has been found by the Eastman Kodak company, who have described in another patent specification an elegant method of using cellulose esters for both sensitve film and support, keying the two together by a layer of similar but subtly different material.

In technical parlance, the water-permeable ester may be cellulose acetate having an acetyl content of 28 per cent., while the film base has a relatively high acetal content of, say, 40 per cent. It is like coating a gelatin emulsion on top of a hard, insoluble gelatin—a thing the early emulsion chemists tried very hard to do without any commercial success.

Advance in Lens Manufacture

A good deal of interest is being evinced in regard to plastic lenses. Here two unplasticised materials made by Imperial Chemical Industries are of outstanding interest These are polymethyl methacrylate and polystyrene. An important feature of these two materials, apart from their high light transmission, particularly in the ultra-violet, is that their refractive indices are respectively equal to those of normal optical crown and flint glass:—

Transpex I ... Refractive index 1.4900
Transpex II ... Refractive index 1.5900

Here we see the necessary physical requirements for the making of achromatic lenses (ordinarily a combination of crown and flint glass), and so a new plastic field is opened up in photographic optics. Both materials can be moulded between optically worked moulds to give accurate components with highly polished surfaces, or they can be worked on normal glass-working equipment.

True, these plastics, more particularly the methacrylate polymer, are somewhat soft and liable to scratches if carelessly handled, but improvement has already been effected by covering the lenses with a very thin film of optical glass as a protector. This layer is about one ten-thousandth of an inch thick. Methods of hardening throughout the mass are already in progress in addition.

Finger-proof Colour Filters

While dealing with the optical uses of plastics, some reference should be made to the wide range of colour filters made by Dufay-Chromex, Ltd., which—without being cemented between glass—are highly resistant to finger-marks grease and water. These filters are made up of a thickness of one tenth of an inch.

It will be seen from the foregoing remarks that we have in plastics new raw materials which can be made or built up from the simplest organic beginnings. A whole range of plastics can be arrived at from acetylene, for instance. Carbolic acid and formaldehyde gave us, in Bakelite, one of the world's most useful plastics. But as in all new branches of chemistry, progress and research continue at an incredible rate, and the use of plastic materials in kinematography for plant and equipment, lenses and optical parts, in the manufacture of sensitive emulsions and new bases for negative and positive stock, will be exploited to the full for the benefit and advancement of the industry.

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THE BACKROOM BOYS OF THE STUDIO WORLD AND THE WIZARDRY OF THEIR TRICK WORK

A Review of the Remarkable Progress in Special Effects Technique and its Importance as a Money Saver

By HENRY HARRIS

Joint head of the Rank organisation's Special Effects department, who was with Warner Brothers before he joined Denham a few years ago and who started his career in the film business in 1913.

ONE cannot over-emphasise the important part played in production of a film by the application of Special Effects. Studio people hear very little of the work and methods of our Special Effects departments because these experts guard their secrets as carefully as any diplomat.

The effects man, like a conjurer, never tells his audience or his stage manager how the trick is done. However, since the end of the war, British studios have made remarkable progress in Special Effects technique. Producers realise more than ever that they are working with the medium that can save them thousands of pounds on any production. So much importance has been attached to this work by the Rank organisation that a leading chemist, S. C. Pearson, has been added to the pay-roll. His job is to experiment in all fields of chemical Special Effects work.

Breath Taking

At the moment he is trying to find a method of producing cold breath vapour which must appear to come from the mouths of the actors in Michael Powell's next film, which is set in Tibet.

In my opinion, we have kept abreast of Hollywood methods throughout the war, but whereas Hollywood has all the machinery it needs for its work, we in Britain have to make do with equipment which is years out of date. For example, we are using optical printers in this department which were put in when the studios were first completed because we just cannot obtain one of the new Acme printers.

Bill Warrington, our matte expert working at Highbury, is doing experimental work with cameras because we have found these to be more accurate than using the old optical printers. Bill, by the way, is trying new methods with colour, and in particular with model mattes as opposed to the glass matte method.

Our department was set up a year ago. It is now forty strong and has already proved itself an advantage in being able to collate all the old Special Effects men who, before the war, used to work in the studios independently. Doug. Woolsey, known for many years with Process Productions, is joint head of the department with me, and Bob Foord, who was unit manager with Independent Producers, is now manager of our department.

Artificial Clouds

Through the gradual release of materials, particularly chemicals, we are making steady progress in the development of our technique. For example, we have been perfecting artificial clouds which float in the air like real clouds. Some of this work, which has been carried out by Harry Waxman, can be seen in the new film "Top Secret."

Back projection is now also handled by Special Effects, and under the supervision of Syd. Howell, research has been taking place which, before long, will introduce new methods with B.P. Associated with this development, I should mention Jack Whitehead, for many years cameraman with Gaumont-British.

Typical of the post-war progress in our studios is this story of the machine-gun effect. The old method of firing the gun artificially was to connect it to a revolving gas jet. The gun itself had to be in a fixed position. Carol Reed wanted a perfect effect for "The Way Ahead," and because we were unable to provide anything better at that time, real ammunition with the metal bullet head substituted by a cardboard head was used. These bullets were still pretty dangerous!

Now, my department has found a new method of firing a gun. For "Top Secret" we connected a small tube leading from two cylinders of gas and oxygen to the barrel of the gun. An attachment in the barrel provided sparks which could be controlled to fire the gas and provide realistic flashes when they were wanted. Special chemicals which were hidden inside the barrel controlled the actinic value of the flash for the benefit of the cameraman. Every gun was mobile, the actor only having to hide the trailing tube.

We did a job for "A Matter of Life and Death" which I do not believe has been done over in Hollywood, certainly not in this country. We combined back projection, Schufftan and model systems to do the High Court in the Heaven sequence. The illusion had to be of an infinite amount of space, which we could not produce naturally on Stage 5 at Denham. The B.P. was used in place of a model and reflected in the Schufftan mirror. Models were in front of the camera, and this had to be set up on a Nodel tripod. Any cameraman will tell you it is no easy job setting a Technicolor camera on to one of these tripods, especially when the tripod was originally built for a monochrome medium.

Our model work has made considerable progress under George Blackwell. We have recently had a great number of hanging miniatures to do for "Great Expectations," and the work is as good as anything Hollywood can show. Our progress has not been in the actual making of the models, but in the co-operation with the art department, which has now reached perfection. This co-ordinated planning is the fundamental of good model work.

Whirlpool Effect Secrecy

One of our most successful sea efforts was created by the apparatus which we used on "I Know Where I'm Going." The work was done in a tank on the lot, and most of the technical critics were unable to detect how we did the whirlpool effect, which, I am afraid, must still remain our secret.

One thing is certain, as soon as we can get more equipment, we shall be providing new and better special effects. Some of the equipment we are planning to have made includes new Nodel tripods and, in particular, optical printers. The department will soon be centralised at Pinewood with its own studio, and when this is done I feel sure we shall be in the best position to give producers in the Rank organisation, *and out of it*, the best Special Effect service in the world.

Building Up an Animation Unit is Not All Plain Sailing

By DAVID HAND—in charge of G.-B. Animation, Ltd.

IT would take someone with a big imagination to have dreamed up a more interesting problem than the one with which we are confronted to-day in developing the animation industry in Britain.

All of us are only too familiar with the fact that equipment, building materials and other essentials for production are practically impossible to obtain.

If these were the only difficulties to be considered in my particular branch of the business it would be enough, but, in addition, there is the greater problem of obtaining the necessary artistic talent capable of performing the high quality of graphic work demanded by the medium.

I received one of the greatest shocks of my career when, soon after my arrival in England, I began to understand how much the war had done to retard natural development of the arts. The young artists, just starting their professional lives, along with those still in art schools, were, of necessity, called up for service during the national emergency. Because of this, the graphic arts have lost an irretrievable number of developed artists.

It is desirable that we encourage the younger artist to begin his professional career in the animated cartoon medium so that as he grows older and becomes more mature, he reaches the highest degree of skill in his particular job. The Americans, in building their cartoon industry, were fortunate in this respect, inasmuch as they started many, many years ago. Consequently, they had reached full development at the start of the war.

To-day, in England, we find a lack of potential material because of National Service.

We are fortunate in having some talent released from the Services. This usually comprises men who have attained a high professional standing before going off to war, and naturally now, with family obligations, require commensurate rates of pay. However, artists starting with us must pass through a long training period, which does not make provision for high salaries. Consequently, there are difficulties here.

The ultimate effect of these problems is one of brakes being applied to a powerful car. There is plenty of power under the bonnet, yet we are not covering any distance. There is no doubt that at the present time there is a grand opportunity for a British cartoon suitable for the international market. There is also no doubt but that we will be able to eventually produce a top-quality product acceptable to this market.

Much has peen accomplished toward this goal. This youngster now being born amongst the grown-ups of the British films promises a wonderful future. We are confident in ultimate success.

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A BRITISH OBSERVER'S CLOSE-UP VIEW OF THE LATEST PROGRESS IN AMERICAN LABORATORY TECHNIQUE

One or Two New Ideas but Generally They Are Faced with Much the Same Handicaps as Ourselves

by CYRIL PHILLIPS, Pathe Laboratory Manager

Laboratory technicians have heard much about the striking efficiency of the Hollywood processing plants, and many rumours about sensational development during the war years in the U.S. This informative article, by Cyril Phillips, laboratory manager of Pathé, who has just returned from a protracted visit to the States, disposes of the rumours and gives a clear picture—and some very interesting facts—of the laboratory section of the film Industry in America.

I HAVE just returned from a visit to the United States, where I was given every facility for examining the latest developments in film processing, laboratory equipment and technique. I visited laboratories in New York, Kansas City—to study 16-mm. colour—and Hollywood.

I found very little that was new and startling, and my general impression was that, apart from one or two developments, of which I shall have more to say later, America has suffered during the past few years from much the same handicaps as we have experienced here.

Shortages of material and to some extent of labour have restricted new construction. In New York, for instance, I saw very little machinery that had been constructed since 1942. The impression that remains with me after my tour of the New York laboratories was of some brand new and original apparatus side by side with printers about 30 years old, and developing machines dating from long before the talking film era.

Of New Design

Some of the more original apparatus to which I refer I discovered at the De Luxe and Consolidated plants. Mr. Bertram, the De Luxe superintendent, showed me some spray-type developing machines made to his own design.

There are no developing tanks, as we know them, used in this apparatus, in which all solutions for developing, fixing and washing are sprayed on to the film at a fairly high pressure, all stages of processing being enclosed in glass cabinets, making for easy inspection of the work as it proceeds.

At each stage the excess solution drains into a sump, from which it is returned, *via* reconditioning and filtering apparatus, to the spray nozzles. It is claimed by the designer that in practice these machines solve the problem of developing streaks and follow marks.

There is, of course, the difficulty which might possibly arise from the rapid oxidisation of the developing solution, but with modern methods of control by chemical analysis, Mr. Bertram claims that this drawback is not serious. Anyway, De Luxe has been using this type of machine for several years, and it speaks for itself that they are now constructing others.

Giant Printer

Control by chemical analysis, I should say at this point, is something that the Americans have brought to a very high degree of efficiency, especially in the Hollywood laboratories.

The second innovation that impressed me was the magnificent 400 ft. per minute printer, which was demonstrated to me by Arthur Miller, president of the Consolidated organisation. This machine takes reels up to 10,000 ft. of negative loading. The giant reels are actually driven on to the machine by independent torque motors. thus combating the strain on the first sprocket, which might otherwise have resulted in torn perforations, owing to the weight of the film.

Incidentally, the printer joins the reels of stock on the machine by assistance of a special elevator.

I was surprised to find that air conditioning of work rooms was not in general practice in the New York laboratories, although great pains were taken to ensure rigid control of temperature control of solutions.

In Hollywood, on the other hand, air conditioning was considered to be an essential working condition. I should point out here that the East Coast laboratories deal with all 16-mm. black-and-white and practically all 35-mm. release printing for the entire country. The largest organisation in that area has a total capacity of 50 million ft. weekly of standard and sub-standard. This plant, however, was very much bigger than any of its competitors, and it was much more normal to find laboratories whose weekly output was around 4 million ft.

West Coast Efficiency

In Hollywood, as one would suppose, the laboratories specialise almost exclusively in production work. The overall picture on the West Coast was of great efficiency, in more spacious premises accommodating the most up-to-date apparatus.

Here, the most modern methods of control by chemical analysis were fully used and fully understood.

Friction-driven developing machines of various types are popular in Hollywood, but I noticed that in the East the friction-drive type were slow in arriving, and even high-speed types were still being driven from the sprocket holes.

There would appear to be several reasons for the excellent conditions to be found in Hollywood. Obviously, a great deal of money had been spent in equipping and maintaining these laboratories, probably because they are right under the eye of the producing firms, and superintendents are therefore able to show executives exactly where their apparatus is beginning to become shabby.

It is also possible that the climate and the greater amount of space available has something to do with the clean and unhurried atmosphere which obtains in these laboratories. Certainly, everything in California has to be white-washed or chromium-plated to match the dazzle of the streets.

First-Class Scientists

I was surprised and pleased to see the tendency of Hollywood superintendents to surround themselves with scientists and technicians of first quality. Obviously, great pains have been taken to attract the best type of scientific mind to the Industry, and there are very much higher rates of pay for these men than are found elsewhere.

Coming from England, I found it refreshing to see so much confidence between studio and laboratory. Everyone to whom I spoke on the production side took it for granted that the laboratory that processed their work were 100 per cent. competent. By that I do not mean that sections of "rushes" were never rejected—they sometimes were—but "inquests" were avoided and tempers never became frayed. Maybe the weather has something to do with it!

I had heard a lot of rumours about colour being just around the corner in America, and I was anxious to see for myself. I found a universal regret that the lay and Trade Press had given prominence to such statements. Eastman-Kodak, a firm that should be in a position to know, certainly does not subscribe to this view.

It is generally realised that in order for colour to supersede black-and-white, a system is required that can be handled with uniform results by all commercial laboratories. There is, accordingly, a feverish anxiety to develop and market more easily processed systems. Perhaps Anscocolor may prove to be an answer to the problem. It has made great strides in the last few months. In the opinion of most American experts, however, it will be many years before our screens become all-coloured.

Two-colour Processes

As regards two-colour processes, Cinecolour seems to have made the biggest advance, but it is not a system that can be handled on modified black-and-white processing machines.

It is a significant fact that nowhere did I see any processing machine on the laboratory drawing boards or in course of construction which made provision for possible colour developments. I have been hearing a great deal about the Agfa colour system, and personally I should not be surprised if a European process is not the first to solve the problem.

My general impression was that the American laboratories are faced with very much the same difficulties and handicaps as ourselves. There are still acute shortages of material—one of the most serious being the lack of stainless steel—and the war period for them has not been, as some people supposed, a phase of startling developments, but very much of "making do" in the same way that we have experienced.

PRODUCERS OF CHILDREN'S FILMS HANDICAPPED

The Ban on Young Actors

ONE of the problems facing the producers of special films for children is the regulation which prevents the employment of children under 14 years.

This was an important point made by Miss Mary Field, director of Rank's Children's Film Dept., speaking at Glasgow.

She stated that because of the restrictions she has stocks of ideal children's stories on ice.

For over two years approaches have been made to the Government for the regulations to be modified and a "Children's Charter" had been prepared, suggesting care and conditions for juvenile players "better than those in Hollywood." Notwithstanding their efforts, however, no immediate hope is held out of any alteration in the present age limit.

Under these conditions, there was the possibility of foreign countries opening up with special children's films, showing children. Already one or two Continental producers have made special subjects of this nature.

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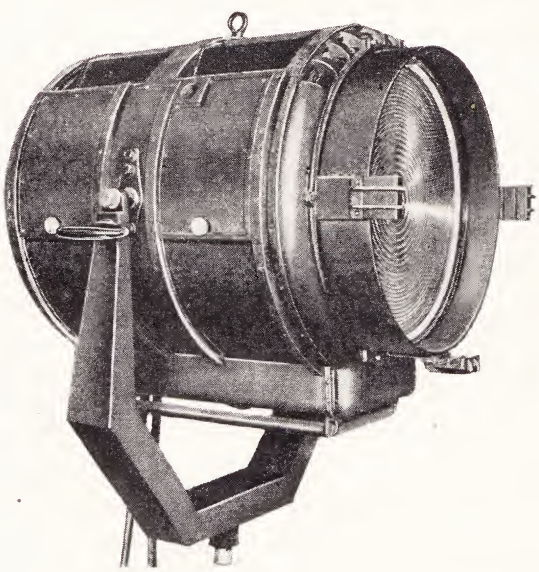

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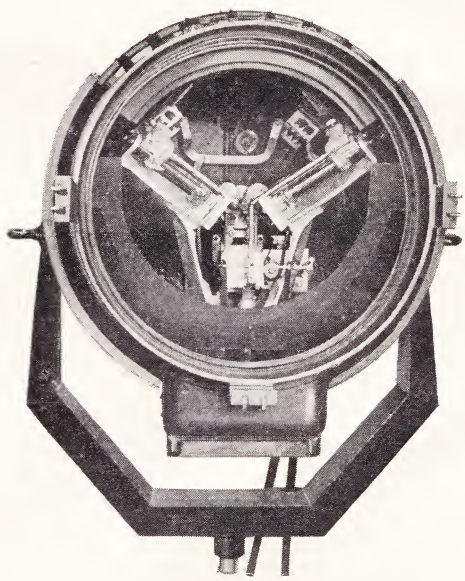

This illustration shows the lens removed to give a clear view of the assembling of the positive and double negative carbon.

The range includes 5kW., 2kW., and 500-watt incandescent studio spotlights—3-lamp, 2-lamp and single light broadsides, and a 150-amp. double negative arc.

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An Analysis of the Future Plans of Our Major Production Companies

Now that many of our studios are coming back into production, producers generally are planning to increase next season's output. Here is an analysis of the future plans of our major production companies. Largest production increase is from the Rank group, Two Cities and the Independent Producers both doubling schedules now that each has a major studio—at Denham and Pinewood respectively.

WITH an enlarged scenario department on the adaptation of famous novels and stories, and the return, very shortly, of Elstree studios to full-time production, Associated British is set to go into early production of high-budget films for world markets.

Joan Dowling, the talented sixteen-year-old girl who flashed into the public eye as the result of her fine performance in the play "No Room at the Inn," has been signed up by Associated British on a long-term contract, and will make her first film appearance in the forthcoming production "Temptation Harbour," adapted from the Georges Simenon story "Newhaven Dieppe."

Associated British, however, have finally succeeded in placing her under contract. Michael Denison and Stephen Murray have also been signed up by Associated British for rôles in forthcoming productions.

The film version of "My Brother Jonathan," the best-selling novel by Francis Brett Young, will follow "Temptation Harbour," and will be directed by Harold French, who is under contract to Associated British, and will be produced by Warwick Ward. A cast has not yet been announced.

Also in preparation for early production are: "She Died Young," story by Alan Kennington, the author of "The Night Has Eyes"; and "The Master of Ballantrae," a film version of the classic by Robert Louis Stevenson.

SYDNEY BOX PRODUCTIONS has four pictures set for the next 12 months. They are: "The Brothers," from the story by L. A. G. Strong, which will be directed by David McDonald, his first film since release from the Army. Locations will be in Cornwall and Scotland.

Probably Riverside will be used for inside work. Cameraman, Erwin Hillier. Cast not yet settled.

"The Upturned Glass" is the James Mason subject, set for July, at Riverside. The script is by James's wife, Pamela Kellino, in collaboration with James P. Monaghan. It is a psychological thriller. Laurence Huntington is to direct.

"Mantilla," a story with a Spanish setting in the early 1800's, which is to be made in Technicolor. Star: Ann Todd. Original story by Muriel and Sydney Box. Locations in Spain. Director: Compton Bennett.

"The Killer and the Slain," from the posthumous novel by Sir Hugh Walpole, will be made early in 1947. Eric Portman has been signed for the leading part.

F. DEL GIUDICE, managing director of Two Cities, following the company's present productions at Denham has two productions set for Denham throughout the rest of the year and in 1947.

"Hungry Hill" and "Odd Man Out" are nearly finished.

The next film to go on the floor is Charters Films' "Fame is the Spur," Howard Spring's best seller, produced by John Boulting and directed by Roy Boulting.

Brigadier Nigel Balchin, author of two novels, "Mine Own Executioner" and "Small Back Room," makes his film début with the screenplay which is now completed. Shooting-script is by Roy Boulting. Other members of the unit already engaged are: Stanley Pavey, ex A.T.A. pilot, director of photography; John Howell, ex flight lieutenant R.A.F., art director; Peter de Sarigny, ex wing commander R.A.F., production assistant; Honoria Plesch, ex private A.T.S., costume designer; Jack Worrow, ex squadron leader R.A.F., publicity director; Monty Berman, M.B.E., ex squadron leader R.A.F., costumier.

Eric Ambler will also take the floor with "October Men," from his own original novel. Director: Roy Baker.

In September, Two Cities will film "Uncle Silas," from the story by Sheridan Le Fanu. This film will be produced by Laurence Irving and Joseph Somlo.

Two Cities has another Thorold Dickinson subject, "Secret People," an original story by Joyce Cary and Thorold Dickinson. It will be produced and directed by Thorold Dickinson.

Early in 1947 Peter Ustinov will do another subject for Two Cities.

Later, Paul Soskin will produce a film from the famous novel by Mary Webb, "Precious Bane." This will be directed by Terence Young.

INDIVIDUAL PICTURES has two new films planned while it is completing "Green for Danger" at Pinewood. The first is on "Captain Boycott," from the novel by Philip Rooney. The screen play and co-production is by Frank Launder and Sidney Gilliat, and it will be directed by Frank Launder, possibly starting exteriors in July.

No cast or unit is yet fixed. Tentatively, it is to be made at Pinewood, with exteriors in West Ireland.

"London Belongs to Me," from the best seller by Norman Collins, in black and white, will be produced in early 1947. No cast, unit or studio yet fixed.

MICHAEL POWELL and Emeric Pressburger, who form The Archers, have "Black Narcissus" in production at Pinewood.

"The End of the River" (tentative title) is now being written and prepared by an advance unit in Brazil. It is being adapted by Robert Westerby, and will be directed by Derek Twist, former C.O. of the R.A.F. Film Unit. The film may be made in Technicolor and studio work will be done at Pinewood.

"The Small Back Room," which is scheduled for production in the autumn, has a cast which includes Stewart Granger.

"Red Shoes" will be made in Technicolor at Pinewood. It is a spectacular film of the Russian ballet, in which Anton Walbrook will play a star part.

CINEGUILD'S next production—the company has now completed "Great Expectations" at Denham—will be "Take My Life." It will start at Pinewood early next month.

The cast has not been fixed; but Ronald Neame will direct, with Anthony Havelock-Allan producing. The story is by Winston Graham and Valerie Taylor.

These subjects are also on the Cineguild list:—

A Technicolor subject, which will star Valerie Hobson and will be produced by Anthony Havelock-Allan.

"The Gay Galliard" (Technicolor), by Margaret Irwin, which is to be produced by Anthony Havelock-Allan, directed by David Lean, with Ronald Neame as executive producer.

"Pleasure Beach," by Frank Tilsley, an adventure story set in one of England's most popular pleasure resorts.

EALING STUDIOS is planning well ahead with a wide variety of subjects.

"Joanna Godden" goes into production in July, under the direction of Charles Frend.

No cast has yet been fixed, but Googie Withers will play the title rôle. Location work has already started on the Romney Marshes.

Following "Joanna Godden" will come the topical controversial fraternisation story, "Frieda," which is now running at the Westminster Theatre. Basil Dearden will direct.

"Saraband for Dead Lovers," based on the Helen Simpson novel, will be directed by Basil Dearden. John Dighton and A. MacKendrick are at work on the screen play.

Other subjects lined up for proposed production during 1947 include "Toilers of the Sea" and "Scott of the Antarctic."

MACLEAN ROGERS will be next on the floor at British National with a new screen version of the silent and talkie success, "Woman to Woman," which has been adapted to the screen by Marjorie Deans.

Robert Morley is signed up to appear in a screen version of the comedy novel, "No Nightingales," the screen adaptation of which has been done by Jimmy Seymour.

John Harlow is working with Jack Whittingham on a story about osteopaths which is tentatively called "The Healer." Harlow recently completed a screen version of Guy Trent's "Home is the Soldier."

Maclean Rogers, before being switched to "Woman to Woman," was busy on a new circus story, planned for early production, "Punch Drunk," from a short story by Ralph L. Finn.

FOUR first features are included in Butcher's 1947 programme now being arranged by F. W. Baker.

The completion is announced of the Argyle production, "Send for Paul Temple." Anthony Hulme, who plays the name part, is considered by Mr. Baker as one of his discoveries. It is hoped to Trade show this film early in August.

Frank Randle is under contract and will star in the sixth Randle film, which goes on the floor in August. David Evans is in charge of the script, and it is hoped to announce the director in the next few days. This will be a bigger and better Randle picture, and the star will be supported by well-known artistes.

Following this picture, Butcher's will go on the floor with yet a new type of picture for them, and probably Mr. Baker will give the opportunity of directing to yet another starter.

Butchers are negotiating for the distribution of other British pictures to be produced by a unit outside the Butcher organisation itself.

PARAMOUNT—like a number of other U.S. companies—wants to make films in Britain, but is finding it impossible to obtain studio space.

MARCEL HELLMAN is to make two new films for 20th-Fox, following his highly successful "Wanted for Murder." The production of these subjects depends on the availability of studio space.

GEORGE KING has another film set for early production, "A Lady Was to Die." He has secured studio space—but is not prepared to disclose where at the present moment.

Columbia British has no plans for any productions in the near future.

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RECONSTRUCTION SURVEY—continued

Warner Has Placed £45,000 Order for Equipment at Teddington

British National is converting carpenter's assembly shop into an additional sound stage. Workmen have begun preliminary work. Roof is to be removed and raised. The floor, which is saturated in oil, has to be completely relaid

shortage of labour, materials, shipping and transport of all kinds.

Most manufacturers agree that new designs will be on the market by the end of the year. Already there is some new gear in the studios which bears the "British made" stamp. Multiple H.D. Industries was among the first to market post-war lighting units. G.E.C. is going into production with a range of lighting equipment, and the Rank group made front page news a few weeks ago by contracting the leading optical firm of Newall to build a new studio camera.

Things are fairly well ahead. A glance at the technical reviews in this issue will show that a lot of high-grade British equipment is coming on the market.

I am told that the Industry has received nothing to date from the Government Surplus Supply Association, which was set up some months ago with the approval of the Board of Trade. Obviously, there should be some surplus cameras available, but according to a B.F.P.A. spokesman these have not yet been forthcoming.

New Technique

There is, of course, another point which does not make the British manufacturers' job any easier—the technique of film production is making rapid progress. Some of our producers are already comparing 1946-7 with the never-to-be-forgotten 1929-30 technical era.

Still, the immediate problem is to get our present studios back into operation. Typical of the rehabilitation programmes which are now in full operation is that at the Warner Brothers' Teddington Studios. The studios were blitzed on July 5, 1944, by a flying bomb. The total damage was such that one of the two stages was completely destroyed and the second stage has subsequently had to be pulled down.

I was down at Teddington a few days ago and saw that the rebuilding programme is well ahead, the main Stage 2 is half-way up, while the Stage 1 site has most of the steel construction work in position.

Teddington is to be rebuilt exactly as it was before, except that a new stage is to be put up when the main rehabilitation programme has been completed.

A plan of the new set-up—exclusive to the KINE.—appears on another page.

The actual rebuilding started in December of last year. The building programme is scheduled to be finished by the end of the year, and Warners intend to start production in January, 1947.

When the studios do start up again they will do so with most up-to-date equipment. I understand that £45,000 has been placed in orders for new equipment, excluding cameras and RCA recording gear. Cameras, of course, will come from the Warner plant in Hollywood. Amongst this new equipment will be a lot of Mole-Richardson lighting gear. The order at present stands at: twelve 170s, twelve 120s, twenty-four 65s, twelve Duarcs, 100 2Ks, 65 1Ks, 35 1K "Skypans," twenty-four 500-spots and twenty-four 250-spots and twelve rifles.

Manager Appointed

I walked round the plant with the new studio manager, J. R. Gilbert, who has been with the company 22 years, both in the States and in the renting organisation over here. He showed me where the new power house will be built. This is to be equipped by Ruston and Hornsby, of Lincoln. The company is putting in its latest generating units which will include two 600 kw. D.C. machines with an output each of 575 kw. and two 226 kw. A.C. machines each with an output of 113 kw. The unit will have the latest type of super-charged engines, providing enough power to light a small town. Oil engines will, of course, drive both dynamos and alternators.

The A.C. gear is for general lighting and running the equipment, while the D.C. plant is for floor lighting, including the arcs.

Another important improvement in the general lay-out is to be a larger and better-equipped preview theatre in the administrative wing. This will be provided by enlarging the present theatre. Brockliss is putting in most of the equipment for this job.

Other contractoral jobs are being done by: Humphreys, of Knightsbridge, building; Collin Michael, heating engineers; Wheelers, of Victoria Street, electrical installations; H. W. Cullum, acoustics; Siemens, inside telephones; Foster Transformer and Switch Gear, of Victoria Street, is putting in switch gear; and Herbert Morris, flying equipment cranes.

When Teddington starts to build its third stage, which will put the studio well amongst the leading plants of the country, it will naturally have to sacrifice some of its four and a half acres lot space. This is not of great consequence since the studio is within easy reach of a number of valuable outside location sites.

Elstree, once the main centre of British production, suffered badly during the war years by having two of its major, and one smaller studio out of action. The Amalgamated plant, now controlled by M-G-M, and the Associated British studios (the original B.I.P. plant) were both acquired by the Government—the former for manufacturing plane components, the latter for camouflage and Army Kinematograph Service work.

At the moment only the highly organised British National studios are at the height of production. General Studio Manager Fred Swann tells me that he is prepared to step up the already heavy production budget designed by executive producer Lou Jackson, despite the fact that recent work at Boreham Wood has been complicated by a shortage of stage space.

British National's immediate expansion programme is to convert a large carpenters' assembly shop into another major sound stage. Work has already begun, and there is every reason to expect that the stage will be ready for use towards the end of the year.

When this is completed it will give British National a total of five stages.

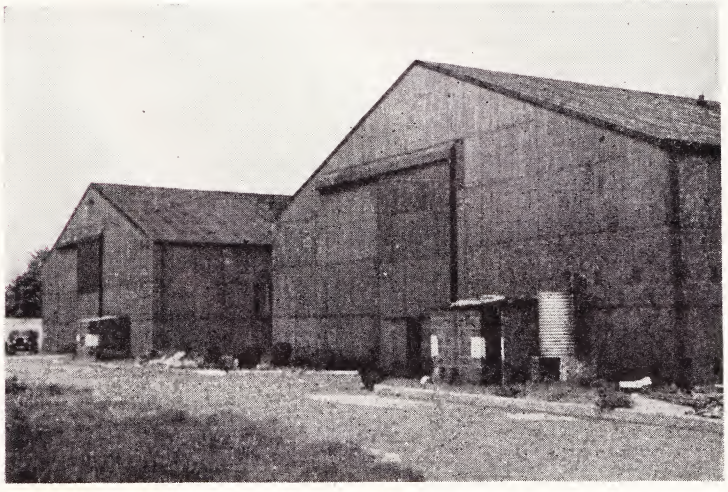
Converting A.B.P.C. Plant

Both Associated British and M-G-M, at the time of going to press, have released no official data concerning their reconstruction programme.

It seems, however, that Associated British will become a key centre of production, and at the end of a long-term policy of building will have eight modern sound stages, each of about 150 ft. x 100 ft. x 40 ft. The credit for the planning of this important venture must go to the company's architect, W. R. Glen.

It is rumoured that the immediate reconditioning, which will cover four stages, will cost the company not less than £500,000. This reconditioning is virtually a rebuilding of the existing plant. The two large stages in the front of the studio, J and K, are to be extended nearer the road by some 30 ft. New

Continued on page xxxi



These two sheds put up on the lot at Nettlefold were used by Vickers during the war for making aircraft parts. Now the studio, to regain its lot, has purchased the sheds from the M.A.P. They are likely to be converted into a model stage and additional cutting rooms and shops

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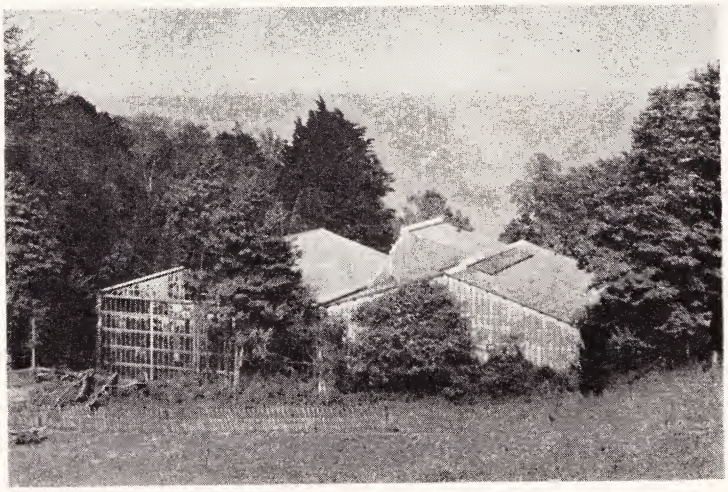
RECONSTRUCTION SURVEY—continued

Associated British Has Long-Term Policy of Building



General view of the Torquay studios, put up in the silent days, which have recently been acquired by a local resident, F. W. Baker, and his associates. The premises are being altered

offices, dressing rooms and make-up rooms are to be built.

The old stages, A and B—where "Blackmail" was made—are to be scrapped.

In brief, this is the plan: Within a few months, the front of the building will have been converted into four modern stages 150 ft. x 100 ft. x 40 ft. At a later date the company will put up four more stages on its lot. Associated British will then have a forty-acre production plant that is second to none in the country.

Amalgamated suffered badly during the war by being converted into an aircraft component factory.

The contractors, McAlpine and Sons, have been working in the studios for some time and have nearly completed stripping the interiors of each of the stages. When this is done, work will begin on the difficult task of rebuilding the inside of each sound stage, and, of course, rehabilitation of the administrative wing, shops and theatres.

I believe that the actual cost of rehabilitation of Amalgamated will be more than the original cost of building the plant just before the war.

At the M. and P. plant near the Elstree station, Jimmy Sloan, joint managing director of the company, tells me that the Army still has both stages and has given no indication as to when the space is likely to be freed.

M. and P., part of the Rank group, is the production ground for G.H.W. Productions, which is set to make religious films as soon as the space becomes available.

Plans are going ahead as far as possible. The company is equipping a recording theatre on the Imperial lot with W.E. gear. The Imperial studios were burnt out in 1935. The lot, controlled by B. and D., is being sold to associate companies—G.B.I., for example, taking over some space for offices.

Brighton Studios

Meanwhile, the much-discussed proposals to put up a film studio near Brighton are now beginning to take shape. Plans have been completed for this Brighton studio and a new company, Brighton Film Studios, is to be formed shortly. As soon as the authorities see their way clear to give permission, work will begin.

The studios are to go up on a stretch of land on the main Brighton-Eastbourne coast road, immediately by Roedean College.

The preliminary plans, which have been generally approved by the lessees, who will, I believe, automatically become directors of the new company, have been made by the London architect, S. B. Pritlove, who was associated with work at the Gaumont Shepherd's Bush studio.

Here is a general survey of how the new studios will look, the whole work costing something like one and a half million pounds. There will be four main stages, each 200 ft. by 100 ft. by 50 ft. in height. These will be in a central position. To their left there will be a modern effects stage (225 ft. by 126 ft. by 50 ft.), which will be built with a tank. On the right there is to be a modern laboratory for all processing work and next to this laboratory a general service garage.

The entire studio will stand on a 40-acre site. Judging from these plans, it will be one of the most modern, and certainly the most conveniently sited, in the country. Two stages will be completed first so that production can get well ahead.

I have been speaking to Maurice Bader, who has been explaining some of the lessees' ideas. The group obviously intends to cater not for any particular production companies, but for British independent producers as a whole.

I was surprised to hear last month that the old silent studio at Torquay (Watcombe Hall) is to be reopened for production. Much is said every year about the amenities of Torquay as a film-production centre; but it has been left to a local man and his co-directors to take the initiative and open up the plant.

About £62,000 is to be spent on reconditioning the studio, which has a floor space of 6,000 square feet.

Korda's Plan

There are, of course, other building plans in the making, but in most cases they are still very much just *plans*. U.S. companies will, of course, go all out to produce films over here to meet British quota, but the current space shortage is holding up their work.

Twentieth Century-Fox has announced an £8,000,000 building programme.

Two weeks ago Paramount announced that it was to build studios in this country.

Meanwhile some of the smaller studios are going ahead with their future plans. Sydney Box's recently acquired Southall plant is, I am told, in a very good production position. Adjacent land has been purchased and an additional stage is to be put up as soon as possible.

Maurice Ostrer, on leaving the Bush, will not find things too easy in the independent production field at the moment. Of the independent producers, Sir Alexander Korda seems to be in the most favourable position.

He is evidently going to concentrate his production in Sound City now that Ruggles has finished "London Town." Worton Hall, which is set for production, and, according to the studio manager, G. Blattner, is "in perfect running condition," will be valuable for model and small-stage work. Meanwhile, I believe Korda is working out a deal with John Corfield who took over part of the studio before Korda secured control of British-Lion.

Korda's Beaconsfield plant has been put out on a twenty-one year lease to the Crown Film Unit.

Sound City itself may be renamed British-Lion Studios. Whatever its name, I am told that Korda will extend the facilities so that the production capacity is eventually larger than that of Denham. The company has announced a production programme this week which will cover three pictures up to March of next year, with six to follow up to the 1948 period.

Sound City is not the only studio at present in operation which has plans for rebuilding and reconstruction. Denham, for example, has a lot of work to be done before it is back to its pre-war standard.

Something like eighty offices, destroyed by bombs, have to be rebuilt. Further, Norman Walker, D. and P. general manager, tells me another sound stage is likely to be put up on the present car park.

But D. and P.'s main building project is to be centred at Pinewood. This has already been turned to the administrative centre of the group.

The reason?

Pinewood is an ideal centre for extension. Building is restricted at Denham because of unsuitable building land on the rear lot; but an unrestricted number of new stages could be put up at Pinewood. One plan is already set for a giant sound recording stage to serve both studios. Pinewood will also be the centre for the new experimental stage being planned by Central Research.

There is no doubt that A.B.P.C. will make improvements to its valuable Welwyn studios. During the war the studio was continually keeping its plant up to date. I have, for example, just received this latest data concerning its power plant:

"Incoming supply: From Welwyn Garden City Supply Co. at 8,800 v., 3 phase 50 cycles. Outgoing supply; (for heating and power circuits) the H.T. current is taken through two 200 kva. and one 100 kva. Hackbridge air-cooled transformers on the primary side, reducing to 380 v. 3 phase and 220 v. single phase 50 cycles on the secondary side. Outgoing supply: (for floor lighting) the H.T. current is taken through two 200 kva. and one 100 kva. Hackbridge air-cooled transformers on the primary side, the secondary of which supplies two 200 kw. and one 100 kw. Electrical Construction Company's rotary converters, each giving 220-110 v. D.C. three wire distribution to the studio floor. The three machines with a 25 per cent. overload for two hours maintain a maximum load of 2,800 amps. at 220 v. across the outers of the three-wire system.

"All three rotary converters, respectively, have at their D.C. output sources Low Pass Filter Chokes, thus eliminating commutator ripple and avoiding the use of local chokes on the studio floor."

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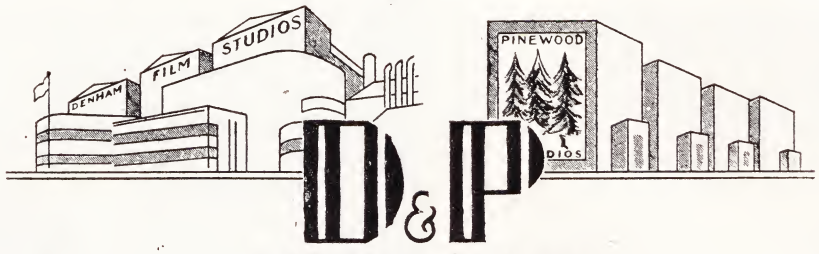

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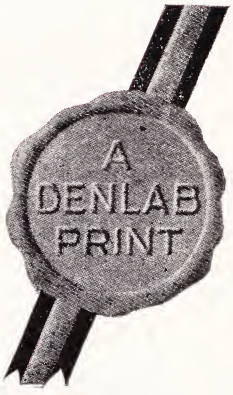

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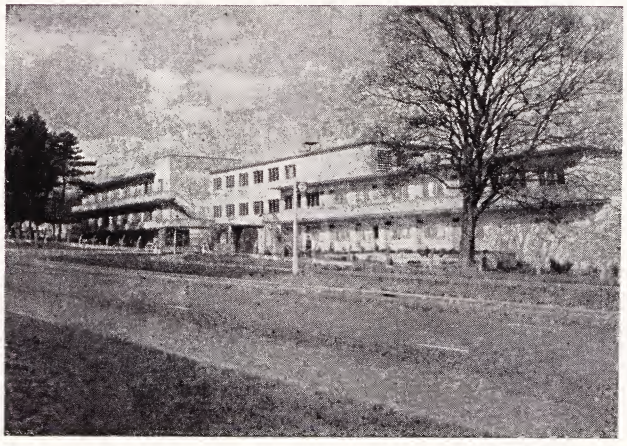

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THE "KINE'S" GUIDE TO NEW STUDIO EQUIPMENT

In this section R. Howard Cricks, F.R.P.S., the "Kine's" Technical Editor, describes the latest studio equipment. He comments on the B.K.S. meeting last month, when the first demonstration of equipment and accessories since the war was held

A Commentary on the First Post-war Demonstration of British Apparatus

S. W. WEST, M.B.E., of Cinema Television, demonstrated a rapid film processing device, produced to meet the demand for the speedy processing of short lengths of films, as of oscillograph readings.

It consisted of a small metal tank with compartments each containing a different solution. A small reel of film was fed from a light-tight box, and was led under a roller, through the developer, into which it formed two loops, then through a rinse, next through fixing, and finally washing. By the use of highly-active developing agents, and the maintenance of the solutions at a temperature of 80 deg. F., it was possible to process a piece of film in 30 seconds—or 5 ft. in a minute. Automatic temperature control was provided, thermometer dials on the front of the apparatus recording the temperature of the developing and fixing solutions. Specially pre-hardened film has to be employed to withstand the high temperature.

West's second demonstration was of a photo-electric shutter timing device, developed to permit the rapid testing of camera shutters. The principle employed was that light was passed through the shutter on to a photo-cell; the photo-cell current was caused to trigger a valve as the shutter opened and closed, independently of the intensity of the illumination.

Shutter Efficiency Curves

The device had three ranges, covering 5, 25 and 50 milliseconds, and, in addition, an external multiplier extending the range to quarter minute and one minute. A shutter may thus be tested over its full working range. Curves of shutter efficiency may be produced by varying the point at which the valve is triggered, the readings representing opening values on the various ordinates of the curve.

He demonstrated this equipment in conjunction with a third piece of apparatus: an exposure timing device. By rotating a dial to the required duration of exposure, from a quarter of a second to 90 seconds, a lamp—as of an enlarger—is caused to light for the indicated period of time merely by pressing a switch. The dial is graduated in multiples of $\sqrt{2}$.

By applying the shutter measuring device to the period of illumination of the lamp, the accuracy of both devices was shown over a fairly wide range.

Colour Comparator

Another demonstrator, D. M. Neale, B.Sc., A.C.G.I., explained the working of a colour comparator developed by Morgan Crucible, and particularly adapted to the measurement of the colour of the light of a studio arc lamp.

Neale referred first to earlier work carried out by Morgan's on the technique of colour comparison by successive tricolour measurements, the colour of light being specified on a triangular colour chart. This method took about 15 seconds to obtain readings, which was a serious difficulty when measuring the light from sources which were not perfectly stable.

A device was required which would fulfil the following requirements: it must give a continuous indication upon a triangular colour chart; it should be highly sensitive in order that "near whites" might be compared with precision; changes in brightness should not affect colour readings; the instrument should be stable in operation; it should be portable.

In the device demonstrated, light from the source is shone upon a box, only 5 in. x 5 in. x $6\frac{3}{4}$ in., which contains a motor-driven shutter revolving in front of three photo-cells fitted with tricolour filters. The output from the cells, pulsating at about 70 c.p.s., is fed through a flex to three separate amplifiers, each having a gain of about 106 db. Since the device works on the "equal green" principle, an automatic gain control causes the gain of each amplifier to be inversely proportional to the intensity of the green light. Thus, readings are unaffected if the light falls to half its original value.

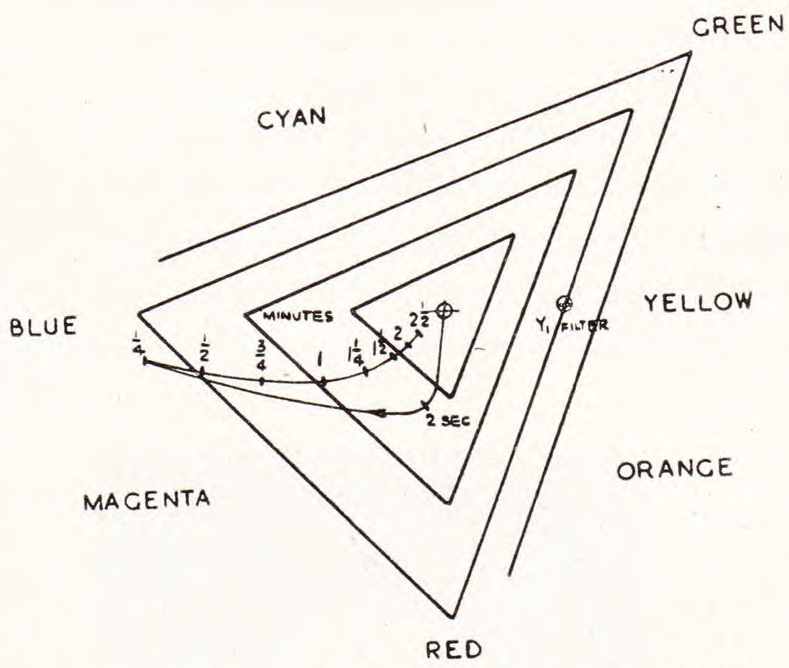
The signals are applied to a cathode-ray tube, on the screen of which is a colour triangle. Each concentric triangle represents 5 per cent. colour saturation, zero being the centre of the diagram. These percentages refer to a purely arbitrary scale, on which the standard Y1 filter, used to correct H.I. arcs to daylight, is indicated as 15 per cent. yellow.

G.E.C. Studio Lights

Highlight of a paper on the design of studio lighting fittings, given by F. S. Hawkins and W. R. Stevens, was a new studio arc, designed in the G.E.C. laboratories, having two negative carbons to a single positive. Advantages claimed for this novel construction were greater efficiency, more even light, and a reduction of noise.

The paper was divided into three sections: light, heat and sound.

Stevens compared the arc lamp with the incandescent. From the aspects of brightness and colour of light, the arc was naturally superior; but incandescents were sufficiently powerful for modern film stocks, and were more convenient. A fundamental difference in light distribution was that the incandescent distributed its light in all directions, whereas the light from an arc was thrown forward of the crater. There will thus be difficulty in making use of a large proportion of this light, and a rather cumbersome and expensive fitting results.



This diagram, which illustrates the work of the new Morgan Crucible colour comparator, appears on the cathode-ray screen of the apparatus. The graph lines shown here illustrate the colour changes resulting from a sudden reduction by 10 per cent. of the current in an H.I. arc. The colour first changes to about 17 per cent. blue-magenta and during the next two and a half minutes gradually recovers to within 3 per cent.

Light Requirements

Following a brief review of the optical constructions of broadside, scoop, and similar diffusing units, Stevens turned to the illuminator, which, he said, was the basis of all studio lighting. In the design of prismatic glassware, the first thing the designer must know is the light distribution required for his fitting. It was, he said, difficult to get from British studios a clear statement of requirements.

The design at present taken as standard gives a patch of light on a surface 10 ft. from the fitting, which can be varied, broadly speaking, from 8 ft. diameter to 2 ft. The lens diameter has been standardised by the B.F.P.A., at 14 in. for a 120-amp. arc, and 20 in. for 150 amps. A difficulty is that if the lens is designed to have its best performance (that is, a uniform distribution) in the flood position, with the arc set at the spot position the light is not sufficiently concentrated; if on the other hand the lens is designed to give maximum concentration in the spot position, the spread position will be found to show a dark centre. The art of the designer is to get a satisfactory compromise between the performances at these extreme positions.

He demonstrated the reason for these difficulties by means of a half-lens, the rays from which were projected on to a screen forming the diameter of the lens. The reason for the unevenness of illumination was seen to be the crossing at different points of the individual rays from the various prismatic surfaces.

Prism Care

The back faces of the prism must be carefully set out; incorrectly placed back faces can give rise to the emission of light in unwanted directions. A spill ring cuts off the most widely divergent light, but in some lenses the back faces are blackened with good effect. Finally, a certain amount of diffusion must be incorporated, the method at present favoured comprising a series of raised knobs on the rear face.

The speaker turned for a moment to mirror systems, which he said were capable of giving results comparable with lenses. Parabolic mirrors are, however, inherently unsuitable for spread distribution, but a simple ellipsoid gives very nearly what is required. A demonstration with a section of an elliptical mirror showed the method of distribution of the rays for both flood and spot.

The second aspect of the paper was the removal of heat. The principal method adopted is the use of convection. A demonstration embodying the Schlieren effect showed the importance of a through draught, free from obstructions.

The Schlieren effect makes use of the refraction caused by currents of heated air; in the demonstration, light was passed through the housing of an arc lamp which had been previously warmed up, but was now switched off,

Continued on page xxxvii

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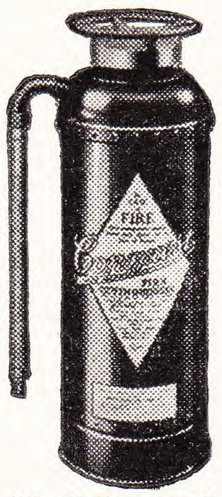
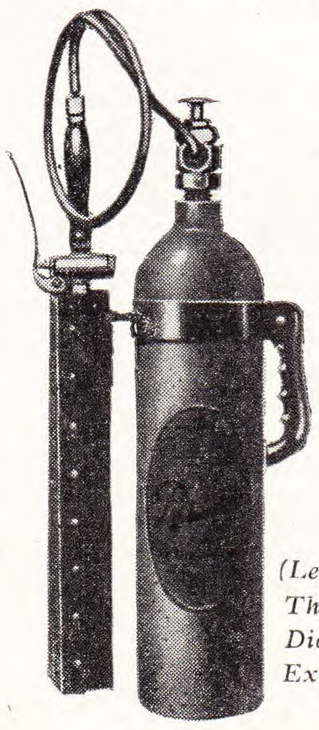


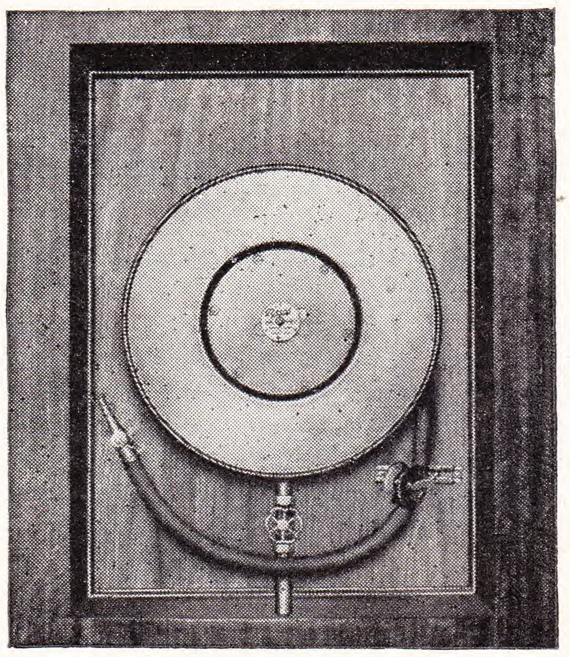
The "Conquest" Soda Acid Extinguisher.

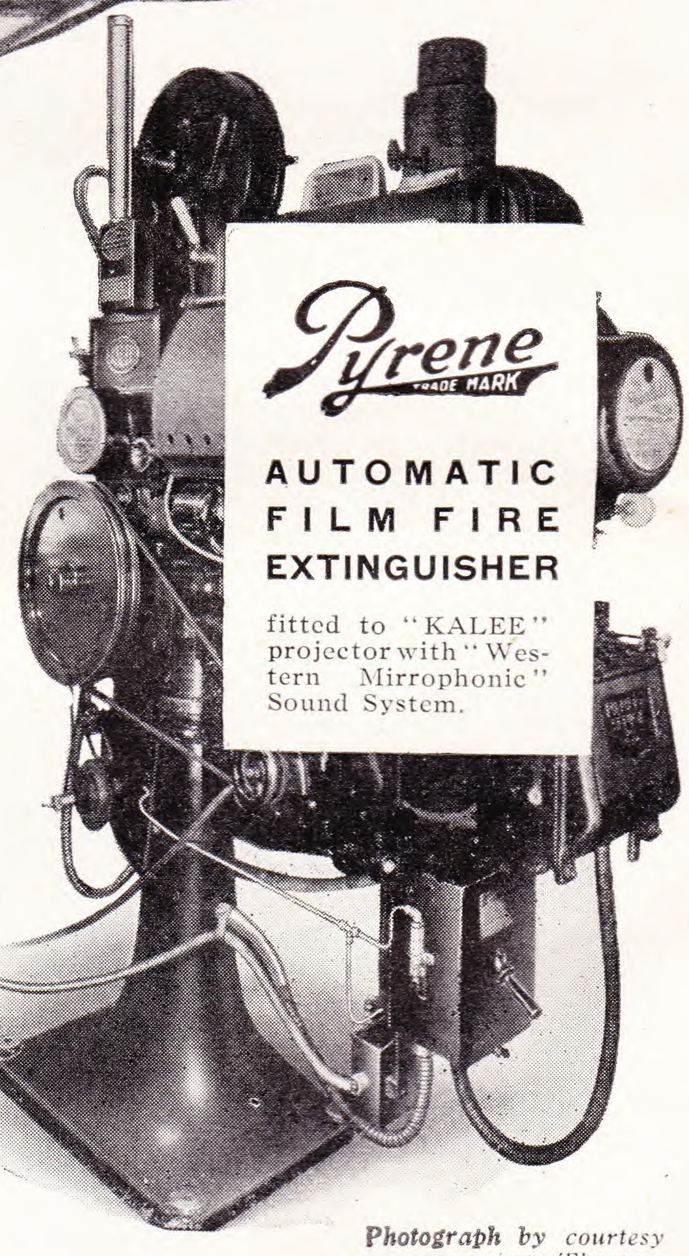
The "Phomene" Foam Type Extinguisher.



(Right) The "Pyrene" Everyway Hose Reel.

(Left) The Carbon Dioxide (CO_2) Extinguisher.





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GUIDE TO NEW EQUIPMENT—continued

Important Experiments in the Reduction of Noise from Arc Lamp Mechanism

was reflected off a large concave mirror back through the housing to an inclined mirror, which reflected the resultant image to a screen. The sensitivity of the system was demonstrated by the imaging of air currents rising from a cigarette lighter. The interference with the air stream and the production of eddies produced by the insertion of even a small baffle showed the importance of correct design.

A complementary way of keeping the body and control handles cool is to prevent the heat reaching the parts in question—that is, by preventing direct radiation reaching them by making the fitting with double walls. In arc lamp units it is usual to lag the space between these walls with heat-insulating material. In incandescents, it is effective to have the inner walls polished and the outer walls blacked.

Noise Reduction

Dr. Hawkins then took over from Stevens and described some interesting experiments in the reduction of noise from an arc. Mechanical noises, he said, may arise from thermal expansion and contraction of parts of the fitting, manifested as sudden cracks or ticks when the fitting is warming up or cooling down. Care must be taken to ensure that there is no relative movement between the various components, and no flat sheets of metal that can exhibit the "oil-can" effect—can jump from one position to another like the bottom of an oil-can.

Mechanical noises may also arise from moving parts, such as the feed mechanism of an arc lamp. Rotation of the positive and steady feeding are essentials, and these movements are obtained from a small electric motor. To ensure quietness, the motor speed must be kept low, well-cut gears (including fibre gears) are necessary, and sound insulation is needed between the motor and the frame of the lamp. Dr. Hawkins projected a number of slides of oscilloscope traces showing the reduction in noise as these precautions were taken. Pads or blankets of absorbing material may also be placed inside the lamp-house.

Electrical Origin

Noises having an electrical origin arise from two fundamental facts. The first is the magnetic effect which always accompanies electric currents. Second is the fact that no practical D.C. generator produces a perfectly steady voltage. In illuminators using incandescent lamps there is no difficulty in overcoming these causes of noise; but it is not possible to quieten the flame of an arc lamp, which is influenced by two effects: the attraction and repulsion exercised by neighbouring parts of the circuit, and the change in volume of the flame. Consequently, it acts as a quite sensitive generator of sound when fed with currents that are not quite steady.

Dr. Hawkins gave a demonstration of this point by means of the "singing arc." A small arc lamp was fed by mains into which was injected the output from a gramophone record; the tone of the record was clearly audible.

The speaker referred briefly to the possibility of using rectifiers for studio arc supply. A higher low-load efficiency is claimed, and a filter embodying a series of resonant circuits tuned to the ripple frequencies has been proposed. Apart from noise due to the mains, the arc itself generates a certain amount of noise. A series of oscillograms showed that while a 45-amp. arc made very little noise, the noise increased with the rise in current. The origin of this noise is ascribed to the negative carbon, and support for this is to be found in the fact that as the current is increased, so the negative flame changes in character.

In view of these observations, it seemed worth while to the G.E.C. technicians trying out the experiment of using two negatives, the current through the positive remaining at its usual value. Further oscillograms proved the value of such experiments; at both 120 and 150 amps., their amplitude was much decreased. Further, it was found that the amount of noise depended largely upon the positions of the negatives; the best position was found to be with the negatives set at an angle *above* the positive carbon.

Double-Negative Arc

In course of these experiments, another feature discovered was the lower arc voltage of the double-negative arc. Instead of the usual voltage drop of 60 to 65 volts, the double negative arc has a voltage drop of only 45 to 50 volts. It is, therefore, possible to run two such lamps in series on the usual 115-volt mains. A comparison shows that, while in the case of the single arc $9\frac{3}{4}$ Kw. is used in the arc and $7\frac{1}{2}$ Kw. lost in the ballast resistance, in the case of arcs in series with the same total consumption, $14\frac{3}{4}$ Kw. is used in the arcs and only $2\frac{1}{2}$ Kw. wasted in resistances.

It is, however, essential that each negative carbon should have its own ballast resistance. In practice these connections may be made by means of a plug-and-socket system which allows connection to be made rapidly without any possibility of error. The light output of the new arc lamp, notwithstanding its lower wattage, is equal to that of conventional arcs.

An important point raised in the discussion was that, if one of the negatives burnt rather faster than the other, the increased arc voltage would automatically keep it correctly fed. No substantial improvement was found when a third negative was used.

While the proposal to employ two negative carbons is not new (it has been proposed for use on three-wire mains) I am not aware that previous experiments have shown any improvement in efficiency or reduction in noise.

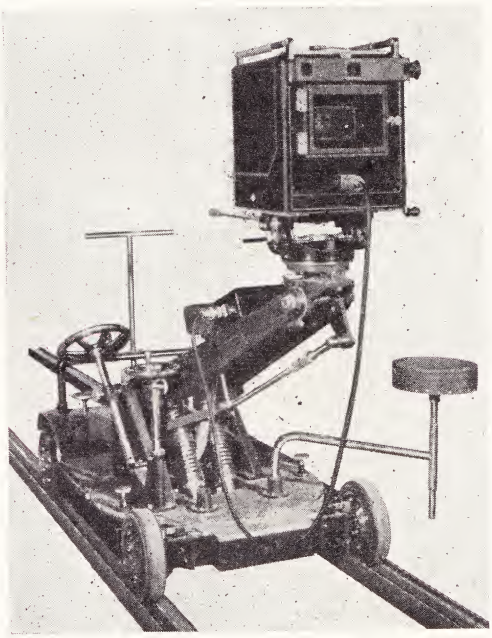
The advantages claimed are attributed by the authors to the increased power concentrated within the positive crater. While I have not had the opportunity of seeing the lamp in use, it is obvious, and I have proved it by experiment, that concentration of the flame within the positive crater (which I have obtained by magnetic means) will both lower the voltage and increase the efficiency. Further, a large proportion of the voltage drop in the normal arc occurs in the negative flame, and the placing of the negatives above the positive and at an angle to it and to each other should increase the area of contact of the flame with the electrodes.

The new arc is very well designed. The additional carbon makes no apparent difference to the control of the arc, the controls being quite orthodox. A striking electrode is provided, actuated from the usual rear lever.

VINTEN'S NEW CAMERAS AND DOLLY

"D-Day Model" With Up-to-the Minute Improvements Ready for Civilian Use

T. W. OSBORN, in the absence abroad of C. Vinten, demonstrated the company's Normandy and Everest cameras.



The Vinten latest type studio camera "Everest" mounted on Vinten's "Pathfinder" dolly

The Normandy, which started life as the Model "K," was specially developed for use on D-Day. It had to be kept as light as possible, and as simple as was consistent with good photography and reliability. A number of refinements had been added for civilian use.

The optical system consists of a rotary tarret holding three lenses, from 25-mm. to 150-mm. As the turret is rotated, a supplementary correcting lens is automatically brought into the view-finder. Correction is provided for parallax. Focusing can also be carried out by an eye-piece on the door, giving a magnified inverted reflection of the image on the film.

The shutter is adjustable from 10 deg. to 165 deg. The pull-down motion consists of a single-sided double-tooth claw, working in conjunction with a "clapper" gate and a fixed register pin. The camera is magazine-loaded, each magazine holding 200 ft. of film; magazines are of the side-by-side type. The footage counter is mounted on top of the camera.

Three motor drives are interchangeable, a spring drive running 50 ft. of film at one winding; a 12-volt battery motor, capable of running at 16, 24 or 48 pictures per second, and a synchronous drive, running from 230-250 volts single-phase supply. The camera, with three lenses, spring drive and magazine, weighs only $15\frac{3}{4}$ lb. The overall weight of the complete equipment, with three motors, battery, and carrying cases, is 95 lb. A specially light tripod weighs only 8 lb.

Osborn turned to the Everest studio camera, the design of which was, he said, started in 1938. Originally known as the Model "J," it

Continued on page xxxviii

HOW THE DEMANDS OF THE MODERN FILM CUTTING ROOM ARE BEING MET

Highlight of A.C.M.'s Wide Range is Editing Machine for 35-mm. and 16-mm. Work

ONE of the most experienced laboratory engineers in the Trade is Dudley Myers, whom I first knew many years ago at Olympic, and later at Denham Labs. In co-operation with John Hopwood he is now responsible for the design and manufacture of a range of cutting-room and laboratory equipment. Their company, A.C.M., is situated between Uxbridge and Denham.

The factory, modern and spacious, is equipped with the latest types of machine tools adapted to work of the highest precision. When I called there, a new capstan lathe was being installed—indicating that even in a limited field such as ours there is scope for a certain amount of mass-production.

I was particularly interested in a device for grinding Maltese crosses. The Maltese cross calls for the highest possible degree of accuracy in every dimension, and most difficult to attain is the accuracy of dividing the four radii. Instead of the usual mechanical dividing head, a large wheel is engraved with fine lines, which are registered on a sight line through a microscope. Since the line can be accurately located to a fraction of a thou., it is safe to assert that the dividing of the cross is as nearly accurate as it is possible for a piece of steel to be.

Simplicity the Keynote

One of the first jobs to be tackled by A.C.M. after the stress of war work was the Acmiola, an editing machine, American in general style, but with certain advantages. A feature of the machine is the ease with which short lengths of film may be run, without any troublesome threading. Various models are made, ranging from the simple, silent picture head to the combined picture and sound machine, with or without take-off and take-up. In the sound models, the amplifier is built into the base of the machine, and the loudspeaker above it.

All types are controllable by means of a foot switch. A reversing switch is, of course, incorporated, and in this connection there is an ingenious feature in the gate which enables the film to run backwards without any risk of buckling. Instead of the orthodox gate springs, the felt-covered pressure frame moves slightly on inclined slides, so arranged that when the film is travelling forwards sufficient pressure is applied to keep it flat and steady, but when the direction of running is reversed, the pressure lifts.

There is a definite demand for a machine of this type for 16-mm. work. An Acmiola, almost identical in appearance with the 35-mm. models, is available, but with an important difference: the picture, instead of being viewed through a magnifier, is projected upon a small screen, giving a 2-in. by 1½-in. picture—amply large enough for editing. A Maltese cross is used, geared down to an eight-picture sprocket, a device, in my opinion, much superior to the usual claws.

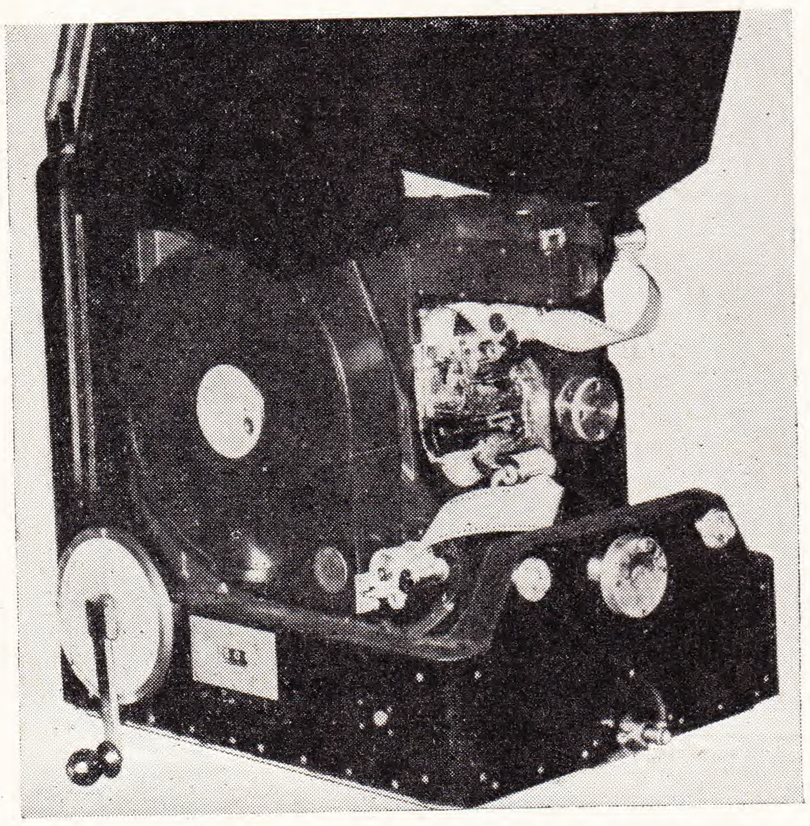
Splicing Machine

Another very sound piece of apparatus which I examined is a foot-operated splicing machine. Again, it is substantially of familiar U.S. design, the two halves being operated by pedals. A good feature is the manner in which it can be adapted to 16-mm., locating pins being lifted into position by means of a knob. Another feature of the machine is the provision on the head casting of side tables, which may carry either vertical or flat winders.

The range of A.C.M. equipment includes everything for the cutting-room: vertical and flat winders, synchronisers, film horses, and portable joiners. In addition, Myers tells me he is working on the design of a printing machine.

As soon as blitz repairs can be completed, showrooms are being opened at 101, Wardour Street.

R. H. C.



The gate and spool mechanism of Vinten's "Everest" camera, complete with built-in blimp

Elstree's Enlarged Scenario Department

WITH the return to Elstree of many former members of the scenario staff, following service in the Forces, the scenario department at Associated British now includes many top names. In charge of the greatly enlarged scenario department, T. J. Morrison entered films after newspaper work in Scotland.

The department now includes these writers: Doreen Montgomery, Dudley Leslie, J. Lee Thompson, Robert Hall, F. Gotfurt, Stephen Clarkson and Walter Summers.

The return to Associated British of members of its pre-war technical personnel has been a great help to the company in preparing many plans. Most recent improvement is the perfection of the back-projection apparatus at Welwyn, the result of long research and experiment by H. Benson, sound supervisor.

VINTENS FOR INDIA

The Indian market is being investigated by Charles Vinten, managing director of W. Vinten, Ltd., the camera and studio equipment specialists.

According to the KINE.'S Indian correspondent, who met Mr. Vinten in Bombay, where he is arranging Indian agencies, he has already booked a number of orders with Indian studios. He declares that he is satisfied with the amount of future business that can be done.

GUIDE TO NEW EQUIPMENT

Cameramen's Part in Design of the "Everest"

VINTEN MODELS—continued

was renamed as a result of the recent competition for the most suitable name.

In designing the camera, a number of leading cameramen were consulted as to their requirements, as a result of which three basic essentials were laid down: an improved optical system, size and weight kept to a minimum, and efficiency and ease of operation.

The principal feature of the camera is the method adopted for the look-through. The image through the lens is diverted during the movement of the film by means of a reflecting shutter, and is thrown on to a screen at the rear of the camera; the image is about 3 in. by 2 in., large enough for the operator to compose his picture, and, of course, viewed with both eyes. A panchromatic viewing filter can be inserted by moving a knob.

The lens panel contains three lenses, and is quickly detachable to enable an alternative panel to be substituted, so making available six lenses, which range from 28-mm. to 100-mm. in focal length. Holders are provided for standard filters. The focusing control is of ample proportion, and allows good control to be maintained through difficult following shots. For checking purposes, an illuminated view of the actual lens scale is provided at the top of the camera.

A tape button is provided at either side of the camera, and, in addition, a range-finder is provided, giving a large view of the centre of the set, and calibrated from 4 ft. to 40 ft.

To keep the overall dimensions as low as possible, the film magazines fit one on either side of the mechanism; this necessitates two loops in the negative; the intermittent loops are, however, kept in the straight part of the film path. The magazines are locked in position by three cams, operated by one lever.

The shutter has an effective opening of 170 deg., and can be closed down to 30 deg. Actually, however, the opening is only 85 deg., the shutter having two apertures and running at half speed, which is a great aid to steadiness and balance. The intermittent motion is an adaptation of that used in the Model "H" camera; the mechanism is well balanced, the moving parts being designed to give maximum strength with minimum weight. The claw is a double-sided single claw, and works in conjunction with register pins.

The camera is reversible, no adjustment to the take-ups being necessary. Lubrication is effected automatically by a small pump. The sprocket roller frames operate on micro-switches, and if any one is not properly closed, the motor cannot start. The power unit is a standard 220-volt, 3-phase synchronous motor, with a switchbox which may also be used for remote-control; lamps indicate when the current is connected, and that the camera is running satisfactorily. The remote-control circuit operates at only 12 volts.

The camera can be mounted on a newly developed dolly, known as the "Pathfinder." The optical height can be varied from 3 ft. 2 in. to 7 ft., on a small crane, which is counter-balanced, and is controlled by a handwheel. The turntable, which provides 360 deg. rotation, is also controlled by a handwheel, but this can be thrown out of gear to allow the camera to be swung freely. Steering is like that of a car, except that all four wheels can be swung to 90 deg., permitting the truck to be moved sideways.

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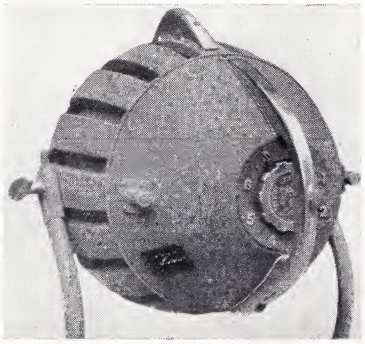

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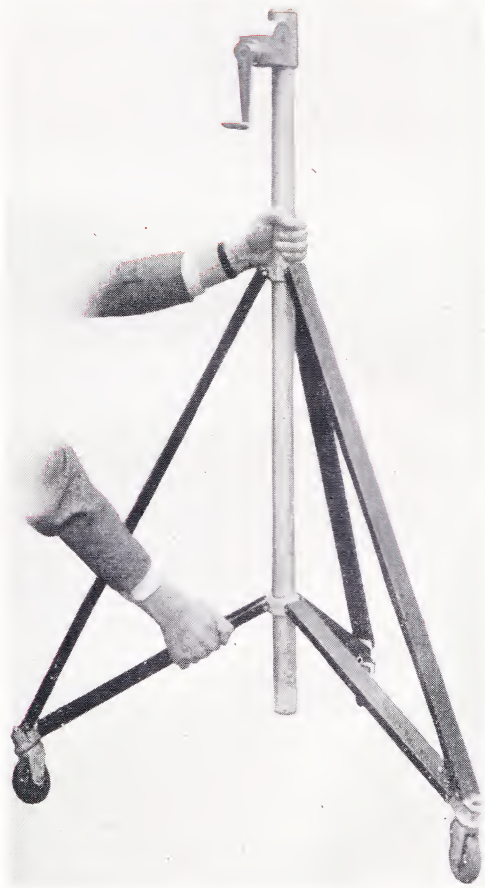

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MODERN TREND IN PHOTOGRAPHIC CHEMISTRY IS TOWARDS FINE GRAIN FILM EMULSIONS

Kodak to Introduce Two New Types for Variable Density and Variable Area Recording

TWO new emulsions will be marketed by Kodak within the next two months. They are described here by Kodak specialist, I. D. Wratten :—

The trend of current motion picture practice is towards the use of films having extremely fine grain characteristics. This trend may be said to have started in 1935 with the fine grain duplicating materials (code numbers 1,203 and 1,365), and to have continued with the more recent introduction of fine grain release positive, code 1,302. The two new fine grain sound-recording films to be described are specially designed to be used in conjunction with fine grain release positive, and both represent a considerable departure from the film types (1,301, 1,358) in current use for variable density and variable area recording systems.

FINE GRAIN SOUND RECORDING, TYPE 1,372: The first of these two films, type 1,372, is especially adapted for use with variable area sound-recording systems and is not suitable for variable density recording. This new emulsion extends the frequency range beyond that which can be recorded on other recording films such as sound recording 1,358.

Speed.—1,372 has a lower photographic sensitivity than sound recording type 1,358, but has sufficient speed to enable it to be used by recorders utilising white light, such as the British Acoustic system. In the case of the RCA recording system, it is not necessary to use an ultra violet filter because of the new film's extremely low image spread, and consequently the illumination level available presents no problem.

An ultra violet filter can, of course, be used in conjunction with 1,372, and under these conditions of exposure the speed difference between 1,358 and 1,372 is comparatively slight.

Spectral Sensitivity.—Like 1,358, the new type 1,372 film is blue sensitive only, the sensitivity of the latter film extending to about 460 mμ at the longer wavelength end.

Resolving Power.—The resolving power of type 1,372 is 150 lines per mm., which compares very favourably with the 50 lines per mm. resolving power of 1,358 type film.

Development.—In view of the high contrast characteristics of the new emulsion, the developer normally used for processing fine grain release prints will generally be found to be quite suitable for 1,372. The developing solutions and conditions of development vary widely between various laboratories, but it is not thought that modifications to any of the existing conditions will be required. Special high energy developers used specifically for variable area sound tracks on 1,358 film are not required for 1,372, and a developer of the D16 type, specially modified to obtain (under the particular conditions of development) the optimum in contrast with the shortest possible toe, could be substituted in its place.

The type 2B Sensitometer can be utilised with 1,372 as with 1,358 for purposes of development control, and under these conditions of exposure a control gamma range of 3.0 to 3.5 is thought to be satisfactory.

Recording.—It is obvious that the best means for determining conditions for optimum quality on this new material are only to be obtained by practical trial under recording conditions, and here the cross modulation tests are recommended. It is thought, however, that these tests will show wider print density tolerances than those which obtain with 1.358 type sound-recording film. For a fine grain release print density of between 1.2 and 1.4 the negative track density on type 1,372 film will probably lie between 2.4 and 2.8.

In order to obtain the best possible results from the new film it will probably be necessary for the recorders to be re-focused. This is because 1,372 has a thinner emulsion than sound recording 1,358. The new type 1,372 emulsion is coated on a base, having a grey backing (density approximately 0.23) in order to provide an additional safeguard against halation.

FINE GRAIN SOUND RECORDING, TYPE 1373: The second of these two films, type 1373, differs greatly from the 1301 type sound recording film currently in use, in that it was designed specifically for the variable density recording system. For some years laboratories have experienced considerable difficulties with the low energy developers necessitated by the use of a relatively high contrast film which they were required to develop to low control gammas of the order of 0.35 to 0.45, and from the point of view of the laboratories, the new type 1373 film may be said to meet their most optimistic requirements in that it has an extremely low rate of development and an inherently low gamma infinity.

It can, in fact, be developed in a normal picture negative developer, and, in a developer of this type the relatively slight variation in gamma over a fairly large variation in time of development will be of considerable assistance in maintaining a uniform quality control from day to day.

Speed: The photographic sensitivity of the new 1373 film is somewhat lower than that of 1301 sound recording film, and it is possible that slight modifications to recording equipment may be required to offset this speed difference.

Spectral sensitivity: The 1373 type film, like 1301, is blue-sensitive only.

Resolving power: In a D76 developer, the resolving power of 1373 type film is of the order of 90 lines per mm., compared with 50 lines per mm. of 1301 type film.

Development: The development of 1373 in a picture negative developer should present no problems in view of its previously mentioned low rate of development. Further tests have indicated that the Eberhard effect (directional effect) is considerably reduced, for the reason that, at the gamma values used, 1373 type film is within reasonable distance of its gamma infinity. Probably, for the same reason, it will be found that the colour coefficient is lower than for 1301.

Recording: It is not within the scope of this description of a new type film to give detailed advice as to its use under variable density recording conditions. The main problem may be to obtain sufficient exposure on the type 1373 film, but once this problem is overcome, intermodulation tests will enable optimum negative and print densities and gamma values to be readily determined. Under recording conditions it is not thought that the light valve gamma will appreciably differ from a 2B sensitometer gamma.

Since the type 1373 film is capable of higher resolution, it can be confidently expected that its use will show an improved high frequency response and a higher signal to noise ratio.

The emulsion thickness of 1373 is very similar to that of 1301 film, and refocusing is not strictly necessary. It may, however, be worthwhile to make focusing tests to achieve maximum resolution in order to obtain the maximum gain in high frequency response.

OBTAINING THE MAXIMUM ELECTRICAL LOAD AT THE MINIMUM OF COST

A Typical English Electric Installation

PROVISION of a suitable electricity supply is a major problem in the planning and equipping of a film studio. In the building of the Pinewood studios this was especially so since the maximum demand load was estimated to be in the region of 1,740 kw.

The public supply was based on a two-part tariff of 13.875s. per kva. per month, plus .4625d. per unit, both measured on the H.T. side. In addition to this high expenditure there would have been considerable outlay for high-tension cables, transformers and other conversion plant, annual expenditure on wages for repairs and maintenance, overhead costs, and depreciation. Furthermore the effect of diversity on the average annual fixed charge could not be predicted, and any restriction of the maximum load is impracticable in a studio with a renting service.

Reduction in Costs

Against this the inclusive cost for the generation of direct current by Diesel engines could be estimated within narrow limits from available operating data. Furthermore, peak demand of current would only be limited by plant capacity.

A Diesel scheme was worked out for an overall standing charge of £5.75 per kw. per annum, plus .35d. per unit for fuel and lubrication, which represented a considerable saving on the public supply facilities.

It was therefore decided to place an order with the English Electric Co., Ltd., for five engines, generators and auxiliaries. The sets ordered were: one 300 B.H.P., 200 kw; three 750 B.H.P. 500 kw. (each) and one 1,000 B.H.P. 660 kw. Total capacity at the 2-hour overload rating is 2,660 kw. or 23,160 amps. at 115 volts. This, excluding the capacity of the 200 kw. set which provides an auxiliary circuit, is sufficient to provide 1 kw. for every 33 1/3 square ft. floor area in the five studios.

Heating System

In the planning of the studios it was also found that electrical heating by the public supply was impracticable. A heating system was therefore devised as an integral part of the generating plant by utilising to the utmost heat present in engine cooling water, exhaust gases, and banks of electric immersion heaters used as a load leveller during periods of low studio demand. This, at the time of installation, was the first heat recovery system of its kind, with an average thermal efficiency of 65 per cent. The advantages of the electricity-heating scheme are, therefore, obvious, apart from the saving in operating costs by Diesel generation of current.

Last year an order for a 1,000 B.H.P. 8-cylinder "L" type Diesel engine and alternator, together with associated switchgear, was placed with the English Electric Co. by the D. and P. Studios.

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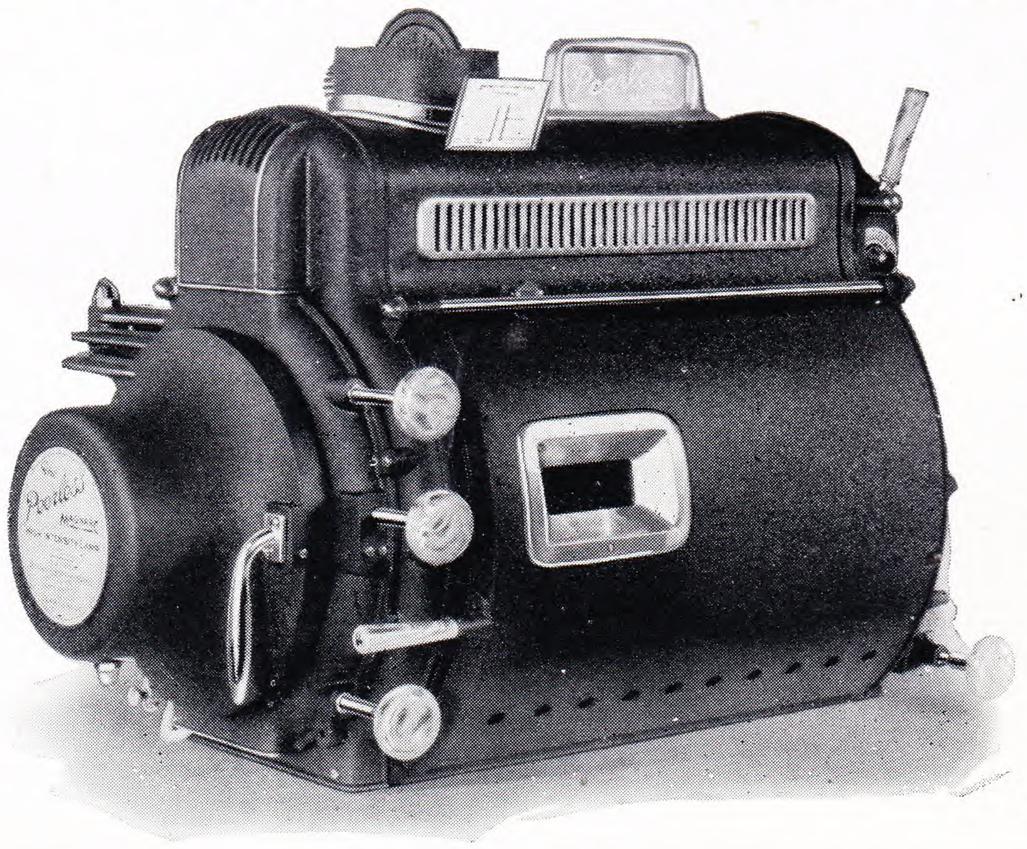

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COMPLETE SURVEY OF AGFA COLOUR, ITS USE IN THE STUDIO AND LABORATORY TREATMENT

An Ingenious German Process Simple to Handle and Capable of Excellent Results

Agfa Colour films, produced in Germany during the war and screened by the Ministry of Information to audiences of technicians and producers, have interested studio and laboratory personnel. In order that the processes might be available in this country, W. M. Harcourt, F.R.P.S., was sent out by a Government Department to survey and report. This is abridged and summarised below.

THE report of the characteristics and use of Agfa Colour in Germany made by W. M. Harcourt, F.R.P.S., during a recent visit is now published in part in B.I.O.S. 397 by H.M. Stationery Office, at 2s.

Harcourt surveys the whole field of Agfa Colour, its use in the studio and treatment in the laboratory. He writes:—

In appearance, the Agfa Colour negative film is similar to any other film material, but it actually consists of three separate layers of colour-sensitised emulsion with a yellow filter interposed between the top and middle emulsions. Each one of these emulsions carries the usual silver bromide, but, in addition, there is added a colour component held in suspension in the silver bromide by a long string of fatty molecules. The top emulsion is sensitive only to blue, the middle to green and the bottom to red. Therefore, at the time of exposure, the silver bromide is oxidised in exactly the same manner as in any ordinary emulsion, and should this film be developed in a normal developer, the result would be exactly as if it were an ordinary black-and-white negative film.

One Developing Process

However, the Agfa technicians have discovered, after many years of research, the colour components which, in suspension in the silver bromide emulsion, would react correctly to one single solution, which would develop the silver bromide *and* the colour components in one operation. In other words, at the points of exposure, the silver bromide is reduced to metallic silver and, at the same time, and in the same places of exposure as the silver bromide, the colours are also produced, as the top layer, yellow, the middle layer, magenta, and the bottom layer, blue-green.

The process then follows to a bleach bath, where the metallic silver is bleached out of the three layers so that the colours now only are left. The final fixing dissolves away the unexposed silver bromide and, naturally, the colour held in it, so leaving only a pure dye image in three colours.

The thicknesses of the layers are as follows:—

	Microns
Blue layer	6
Yellow filter	2
Green layer	6
Red layer	6
Film base	150
Anti-halation base	1
Total ...	171

It is, of course, a negative colour—in other words, the colours in the negative are in juxtaposition to those photographed in actual fact. Blue would, therefore, be shown as yellow, green as magenta, and red as blue. In the printing, it follows that these colours will again become as photographed in the original.

Printing Process Simple

The printing of a film can be carried out on any normal printer that particularly makes use of a moving diaphragm, in that it may be found necessary to interpose light filters to obtain the best colour rendition in the final positive, but such a printer as the Debrie, which uses the moving diaphragm fibre band, appears to be ideal, and is the machine that has been used by the Germans in all their laboratories. The advantages of the process are manifold, in that it is a straightforward negative-positive process and, by the interposition of filters, any desired result can be obtained in colour correction. Even exposure has a great bearing on colour, and it should be remembered that printing can assist in obtaining night effects where ordinarily they really are not present in the negative.

Harcourt states that German producers have found that their shooting time had decreased quite considerably, owing to the ease with which lighting can be carried out, it no longer being necessary to take infinite pains with shadow detail, the colour itself being the separating factor, which, in Monochrome, must of necessity be carried out by light and shade. Schedules were cut down from 14 weeks to nine weeks.

Stock Quality Important

The Agfa process, says Mr. Harcourt, primarily depends upon the high technical excellence of the stock manufacturer, and it can be well understood that coating the film with three layers, plus a yellow filter layer, to infinitely fine limits is no easy matter, but assuming, then, that the stock is of high technical quality and consistency, the problems of photography and lighting on the floor are certainly no greater than in the case of black-and-white. The responsibility of the processing laboratory, however, is considerably increased, and great technical skill is necessary in producing consistently good material, though not nearly so difficult or complicated as with other colour processes in general use. Almost any existing developing machine (with a few alterations) can be used. Careful bath control is most essential, and it will be found that much replenishment and renewal of developing solutions will be required and great care taken in not permitting the developing solution to touch the skin, as it is of a poisonous nature. The colour developer is a hydroxy derivative of di-ethyl-parapheny-lene-diamine.

Gevaert Experiments

The reviewer states that as the Agfa colour patents are in the public domain and available to any who care to use them, he visited the premises of Gevaert in Antwerp. This firm has been experimenting in three-layer emulsion for some time. The first test rolls from this company are expected shortly.

Formulæ for processing are detailed.

A later section of the report deals with a method of production of colour prints, so simple that it is possible for an amateur to contact, print, enlarge, and develop in his own bathroom.

Other portions of the report survey film production and dubbing facilities in the British zone of Germany.

LEEVERS RICH SOUND INSTALLATION AT BUSHEY STUDIOS

Simplicity and Speedy Operation the Keynotes

THE equipment and operation of the sound department of Bushey Studios, Ltd., has been undertaken by Leevers Rich and Co., Ltd., who have installed a standard 35-mm. recording channel similar to those in use on their mobile units and in their Wardour Street studios. While this is basically of conventional design the lay-out has been arranged in accordance with mobile recording practice in order to simplify and speed up operation.

Three Units

The equipment comprises three compact units as follows:—

1. A small control unit which includes all amplifying equipment, two-channel mixer, volume indicator and power pack.
2. A sound recording camera linked to the control unit by a short multicore cable.
3. An exciter lamp supply unit.

The input of the control unit is arranged for either condenser or moving coil type microphones. In the case of the condenser microphone, the power supplies for the integral preamplifiers are arranged within the control unit, while there is sufficient gain available to enable the moving coil microphone to be used without preamplifiers.

Monitoring is carried out by means of moving coil headphones, and as the sound camera is quiet in operation, it is intended that in all normal recording set-ups involving dialogue and similar shots, the equipment should be mounted on a small trolley and operated on the floor, thus giving close liaison between the sound engineer, the director and cameraman.

The sound recording camera is of the variable area type, giving a bilateral track of the twin type instead of the more usual symmetrical type, as this has been found in practice to be less susceptible to scanning errors in reproducers.

The optical system employs a Cambridge mirror vibrator arranged to give lateral deflection and tungsten filament light source. Provision is made for the use of 200 millimetre push-pull track.

The camera may be driven by single phase or 3-phase AC, and provision is made for exciter lamp supply from a metal rectifier or batteries.

For Location Use

Since alternative power supplies are available for either battery or AC mains in the case of both exciter lamp and amplifier, the whole equipment is quickly adaptable for location use, in which case the camera motors are driven by a small alternator which is run off accumulators.

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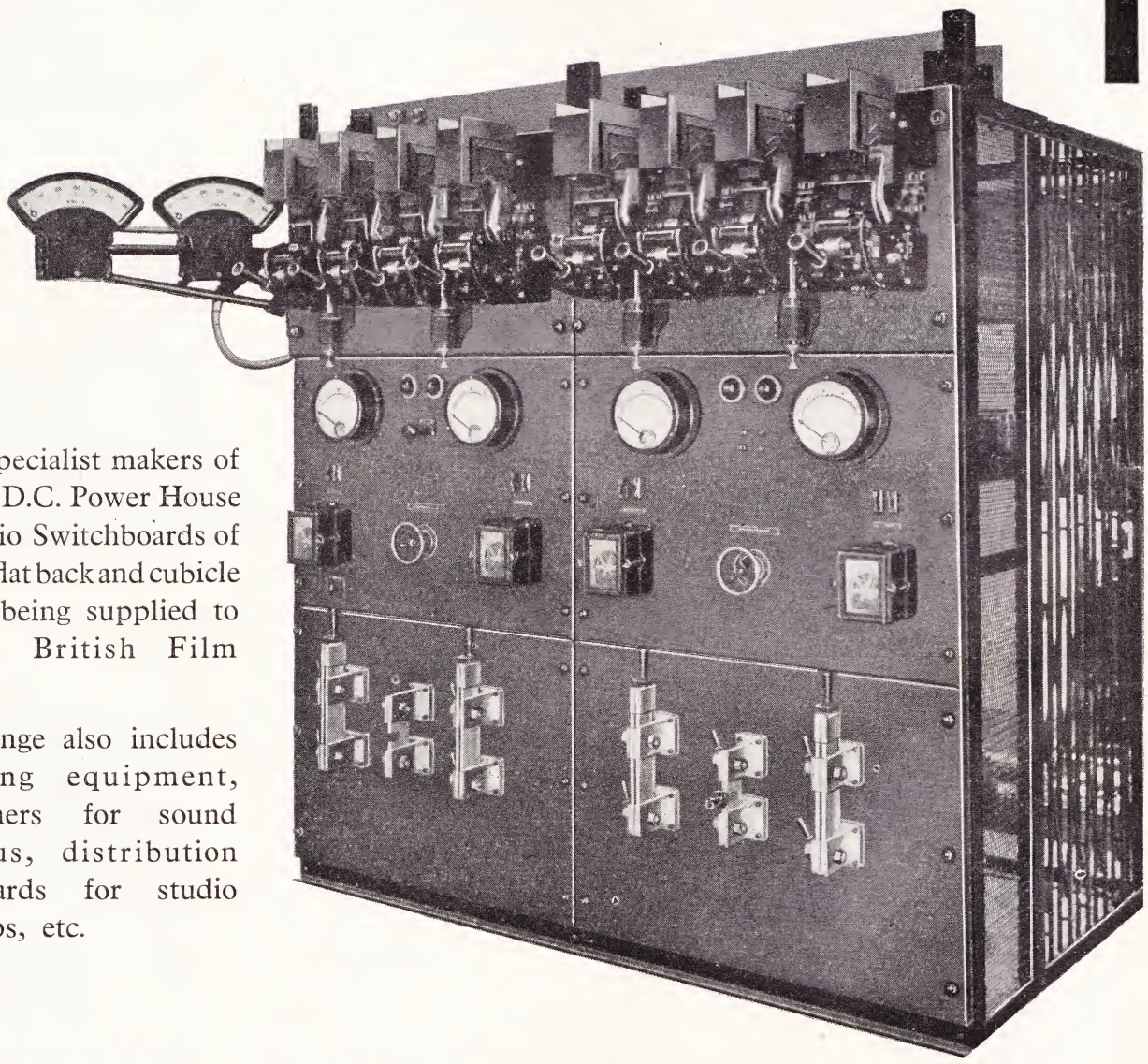

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OVER 26 years' experience of the problems associated with commercial film processing, and the progressive development of plant and processing techniques are foundations on which the Kay Film Printing Co. has built up a service to the Industry which might be justifiably claimed as "second to none."

The firm claims to be the first in this country to undertake optical and trick printing, negative matching and cutting, and the first to provide facilities for the commercial processing of sound film and colour film.

At the firm's Finsbury Park laboratories, where the bulk of the major film processing is done, the plant is capable of handling 120,000 ft. of 35-mm. negative developing per week, and 1,000,000 ft. of 35-mm. printing and developing per week. There are also facilities for the reduction and contact printing of 250,000 ft. of 16-mm. film per week. In this field a considerable amount of Service work has been undertaken during the war years. As the demand for this work falls off, the facilities will become available for commercial purposes. It is also proposed to expand the plant in view of the growing development of 16-mm. for entertainment purposes

Safeguarding Negatives

The general lay-out of the plant has been designed to give efficient and speedy delivery from one department to another, and to eliminate unnecessary handling. Spotlessly clean conditions are maintained throughout the plant; every precaution is taken to preserve the negative and to safeguard the interests of the owner. To this end the individual treatment of negatives is considered of paramount importance. The latest apparatus giving sensitometric control is installed and machines for negative development are run at a speed to give the greatest margin of safety.

Vinten and Lawley type machines, modified and improved to incorporate the latest technical developments, are installed, and a feature of their design is that visual supervision is possible throughout all stages of processing.

In the assembly and grading of negatives the Lawley staple system, which eliminates unnecessary damage to the negative, is employed. By a system of relays and thermionic valves the density of the printer light source is varied to give uniform picture quality in the finished print.

Among other facilities offered by the laboratories are an RCA non-slip printer for re-recording sound tracks; a step projector for back-projection plates; a makeup room for optical work, which includes a Newman and Guardia optical printer, developed by the laboratories' technicians; cutting rooms and viewing theatres.

Day and Night Service

For studio rushes a day and night service is maintained by the laboratories. Negatives received up to midnight are processed, synchronised and printed ready for delivery by 8.30 a.m. the following morning. Another feature of the service is that close liaison is maintained between studios and laboratories, especially where location work of a difficult nature is involved. On these occasions laboratory technicians are sent out so that any special requirements of a particular negative can be ascertained before processing.

The Soho Square branch of the laboratories, designed especially for the processing of Movietone News, is a smaller version of the Finsbury Park laboratories. The plant installed is capable of dealing with 15,000 to 20,000 ft. of negative and 700,000 ft. of positive prints per week. Here, the standard of quality set by the Finsbury Park labs. is combined, as far as possible, with the speed of processing necessary for the production of two newsreel editions per week.

A feature of the installation is a multiple printer, which produces three sound and picture prints simultaneously from one negative, at the rate of 300 ft. per minute. Shortly to be installed is a printer of double this capacity, producing six prints from one negative at 600 ft. per minute.

Co-operative Spirit

Contributing a great deal toward the high quality work achieved by the laboratories is the "family spirit" fostered among the employees, and the maintenance of continuity in departmental control.

The Kay Laboratories' Carlton Hill Studios provides a stage 34 ft. by 24 ft. with an adjoining annex 16 ft. by 16 ft., suitable for small sets, and particularly interior work for documentaries. Equipment available includes Debrie and Newman cameras, the new type RCA PM.45 semi-portable recording channels, Kay sound recording—a non-royalty system—M.S.S. synchronised disc recording system for dubbing from disc to film, and an articulated microphone boom.

B.P. to be Installed

Adequate space is provided for carpenters' and painters' shops, camera-rooms, cutting-rooms, dressing-rooms, make-up rooms, and an art director's office. A viewing theatre is also provided. Dubbing heads are to be installed shortly, and provision for back projection is being planned.

Conveniently located at Maida Vale, the studio offers extremely useful facilities for small-scale production at low cost, and combines the advantage of expert laboratory connections. Another advantage is that the studio can draw upon the facilities of the Nettlefold studios. The studio can also provide equipment and crew, including direction, if required, for location work.

Another activity at the studios is the production of films for film strip projectors, widely used in Services training during the war, and now being adapted for educational purposes.

THE OLDEST CRAFT IN FILM PRODUCING

Property Making and Special Effects

*By GEORGE BEACH, Secretary, Property Branch, N.A.T.K.E.**

PROPERTY making is without doubt the oldest craft in the profession. In the days before scenery adorned the stage, when the only stage lighting was wax flares, the property maker was busy making stage properties for the play actors. In those days and centuries after there was no such thing as hiring properties, everything was made in the theatre, chiefly from canvas, paper, wood and glue.

Coming down through the ages to the time when mechanical properties were introduced, motor cars and airplanes, with their effects, were made entirely by the property makers and the effects operated by the property men. The property makers were masters of their craft and proud of it.

The film studios have a greater scope for the making of stage properties and the use of effects, but unfortunately it has never been properly organised or developed.

Denham has recognised that property making is an essential factor in the making of films. Ealing Studios has had for some time a special effects department in which experiments for the best effects of smoke, fire, steam and explosives are being continually carried out so as to eliminate dangers.

One of the causes for the lack of development of property making in film studios is that many minor films have no call for stage properties to be made, and in their case it is easier to hire what is wanted.

During the past few years there has been a revolution in the art of making stage properties. With the increasing demands of the rapidly progressing British film industry, the property makers have had to adapt themselves to an entirely new situation, go further afield and improve on the old methods of the theatres.

At Denham, the adoption of plastics for artificial foliage, flowers, etc., enables them to be durable, waterproof, cheap and mass productive. By the use of dissolved and cold stilled plastics a large jungle scene was made last year, and it was so perfect that, at a distance, it deceived the natives who had come over to take part in the film.

An entirely new method of making papier mâché articles has done away with the old slow method of several layers of paper; now only two layers of paper are used, with satisfactory results. With the new process several hundred helmets and shields, and many other stage properties were made in a short space of time.

The use of Latex is another innovation. Fruit, vegetables, fish, and many other articles made from Latex give a most natural appearance. The use of Perspex has been exploited when transparent and glass effects were required.

Mechanical animals have been made from rubber, wood, metal, etc., and by the ingenuity of the property makers they have been so effective as to give excellent results before the camera.

By the development of the property making and effects department at Denham and the special effects department at Ealing, the managements have recognised the importance of the art of property making and effects and have given every facility for further development in these essential departments.

May other studios follow the lead given by Denham and Ealing.

**An abridged article from "The Studio," the official organ of The Association of Film Studio Employees, incorporated in the N.A.T.K.E.*

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HOW THE MECHANICS OF LIGHTING ARE BEING SIMPLIFIED AND PERFORMANCES IMPROVED

Outstanding Advances in the Design of the Mole-Richardson Series : Special Provisions for Colour

THREE improved versions of the "Solarspot" lamp, first introduced by Mole-Richardson in 1935, a new dual-purpose twin arc—the Duarc—and an improved rifle lamp are among the firm's post-war models now in production.

The three new "Solarspots" are the 500-watt M-R type 406; 2,000-watt Junior M-R type 410 and the 5,000-watt Senior M-R type 414. In the improvements to the design of this series Mole-Richardson has aimed at attaining a more smoothly distributed light field; simplification of focusing adjustment, and an overall reduction in weight.

The new Fresnel-type lenses, manufactured in "Pyrex" heat-resisting glass with honeycomb backing by Corning Glass Works, are used in conjunction with a more efficient Alzak aluminium reflector. Considerable reduction in the weight of the lamp head has been achieved by using interlocking steel channels electrically welded to end spinnings to form the complete housing. This form of construction, it is claimed, also allows a greater degree of ventilation, regardless of the position in which the lamp is tilted.

Easier Focusing

Advances made in the manufacture of "Mazda" globes, which are virtually prefocus, have also made it possible to dispense with the necessity of making adjustments to the spherical mirror. The entire socket-lamp-reflector assembly is focused by two complete rotations of the focusing shaft operated by knobs from front or rear of the lamp housing.

The 500-watt "Solarspot" is suitable for modelling, back, front or cross lighting where space prohibits the use of larger units. It can be spotted down to an 8-degree beam or flooded to a beam divergence of 50 degrees. As light source, the following lamps may be used: 500-watt T-20, C-13, or the 750-watt T-24 medium Bi-post, of which there are three types: 3,200 deg. Kelvin, Motion Picture 3,250 deg. Kelvin, and Colour Photographic 3,380 deg. Kelvin.

The lamp-head is mounted on a "U"-type yoke of Shelby steel tubing and connected to the pedestal by means of a socket which fits on to a $\frac{5}{8}$-in. stem. The pedestal can be folded for ease of transportation and has two telescopic lifts permitting elevation to any position between 49 in. and 112 in., measured from the ground to the axis of the optical system. Total weight is 33 lb.

10 deg.—45 deg. Divergence

The 2,000-watt Junior is a larger unit designed for functions similar to that of the 500-watt model, but with beam divergence between 10 and 45 deg. Light source : 1,000 or 2,000-watt G-48 and C-13 mogul Bi-post globes. The 2,000-watt globes are obtainable in M.P. 3,250 deg. Kelvin or C.P. 3,380 deg. Kelvin types. The "U" type yoke is mounted to the pedestal by means of 1-in. or $1\frac{1}{8}$-in. stems, as required. The pedestals are normally supplied with a single telescoping support, but two telescopic lifts can be provided. Total weight, 60 lb.

The 5,000-watt Senior "Solarspot" is specifically designed for back lighting, where high wattages are required. An additional feature of this model is provision of a mounting on the lamp-head for a 14-in. shutter. This is of particular value in colour photography where it is often necessary to vary the intensity of the light without altering the colour values of the projected light. A frame to carry various diffusing and filter mediums can also be supplied. Light source : 5,000-watt T-64, C-13 or G-64 globes. The T-64, however, can be burned in any position with less danger of bulb distortion and is, therefore, recommended for use in this lamp. Beam divergence, 10 to 50 degs.

The "U" type yoke is mounted to the pedestal by means of 1-in. or $1\frac{1}{8}$in. stem. Single or double telescoping pedestal supports can be provided. Total weight is 102 lb.

The "Solarspot" series is finished in black baked enamel.

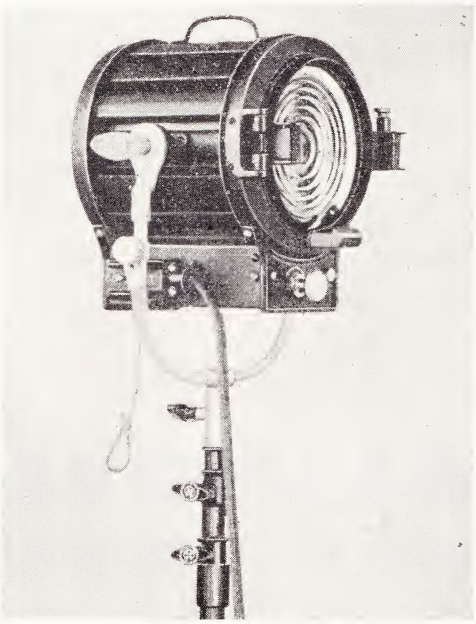
Dual Purpose Twin Arc

The "Duarc" M-R type 40 is a dual-purpose twin arc lamp which may be used for floor or overhead lighting. Normally, two different types of lamps—broadsides and scoops—are used and because they depend on gravity to actuate the carbon feed mechanisms they are not interchangeable.

In the "Duarc" electric motors are used to drive the mechanism, therefore the lamp can be used in any position. Each pair of carbons is controlled by a specially designed motor, the armature of which rotates at 5 r.p.m., the required speed to feed the carbons at the correct rate of consumption. The motors are designed to attain full speed at the moment the arcs are struck and a sensitive control gives steady flickerless operation.

The current rating is 40 amperes at 115-120 volts D.C. The lamp will not operate on A.C.

The lamp-head is constructed of sheet metal and aluminium castings, and is insulated internally for sound and heat by asbestos cloth. Each lamp is supplied with a pebbled sand-blasted "Pyrex" diffuser, which prevents the radiation of ultra-violet rays. Clear pebbled "Pyrex" glass can also be supplied.



The 500 w. "Solarspot" Mole-Richardson type 406

Another feature is that the ballast resistance is contained within the lamp-head which makes the lamp entirely independent of its pedestal for operation. The pedestal has a two-lift telescoping support column. Finish is in black baked enamel. Total weight is 149 lb.

The Rifle lamp M-R type 45 replaces the M-R type 211. The fundamental design has not been changed, but a number of improvements have been made. A globe focusing adjustment has been provided through a knob at the rear of the lamp-head, and the housing is now made from duralumin aluminium alloy, corrugated to give greater rigidity. Light source : 1,000 or 1,500-watt P.S. 52 Mogul based Mazda globe, providing a relatively uniform light distribution over an angle of 60 deg.

Lamp-head Mounting

The lamp-head is mounted on a yoke and pedestal of tubular steel members with a single telescoping tube and ball-bearing rubber-tyred castors. Finish : black enamel. Weight : 52 lb.

Production is continuing on the Mole-Richardson series of high-intensity arc spots, suitable for black and white and colour photography. The three models in the series are M-R type 65, 65 amperes, 115 volts D.C.; M-R type 90, 115-120 amperes, 115 volts D.C.; and the M-R type 120, 145-150 amperes, 115 volts D.C.

Mains Operated Electric Time Keepers

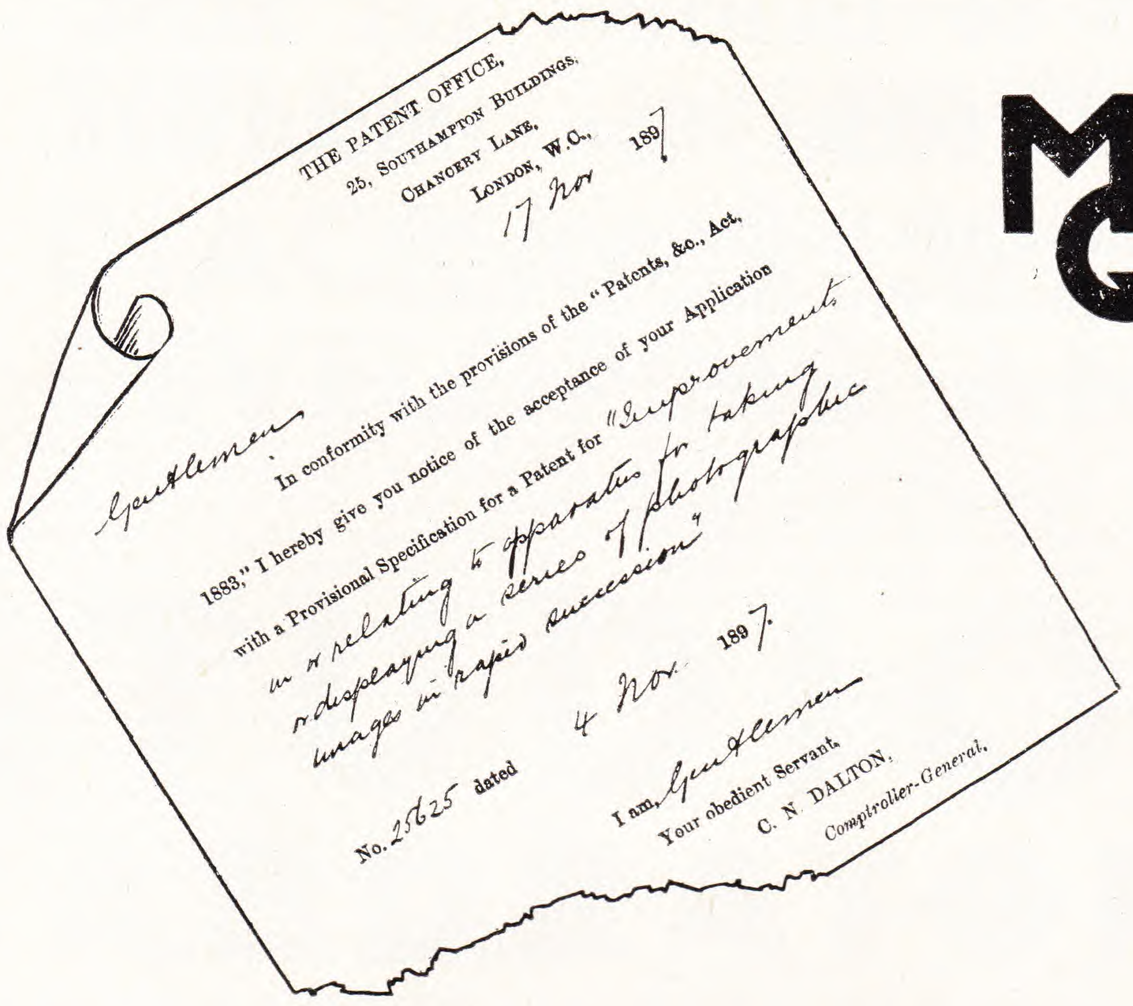
Efficient time-keeping is an important factor of highly organised businesses, especially so in studios where the economics of production are dependent upon the strict adherence to timetables and schedules.

The development of the synchronous mains-operated electric clocks was probably the greatest advance made in the manufacture of time-pieces. The advantages of electric clocks are that they do not depend upon the human element for accurate time-keeping and are seldom affected by normal changes in atmospheric conditions and vibration.

Among the largest manufacturers of electric clocks are Smith's English Clocks, Ltd., makers of the wide range of Sectric standard models, and associated companies. The Mains Time Co., Ltd., factors for Sectric clocks and specialists in the installation, maintenance and repair of electric models, is in a position to supply their product, designed to architects' specifications or other special requirements, including, for example, installations in kinemas in which the hands or chaplets of the clocks can be seen at the greatest distance in the minimum of light.

E. J. Barratt, managing director of the firm, who recently returned from the R.A.F., reports that there is a dearth of commercial clocks, but his firm is in a position of being able to supply and instal immediately. Special designs are even more difficult to obtain, but facilities are available, including expert labour and materials, to produce, instal and repair electric clocks and time-recording equipment of every type and size for use indoors and outdoors. The firm is also able to convert existing mechanical clocks to electric, and to effect repairs within seven days.

"Mains Time" also offer users of Smith's Sectric clocks a special maintenance service at low cost.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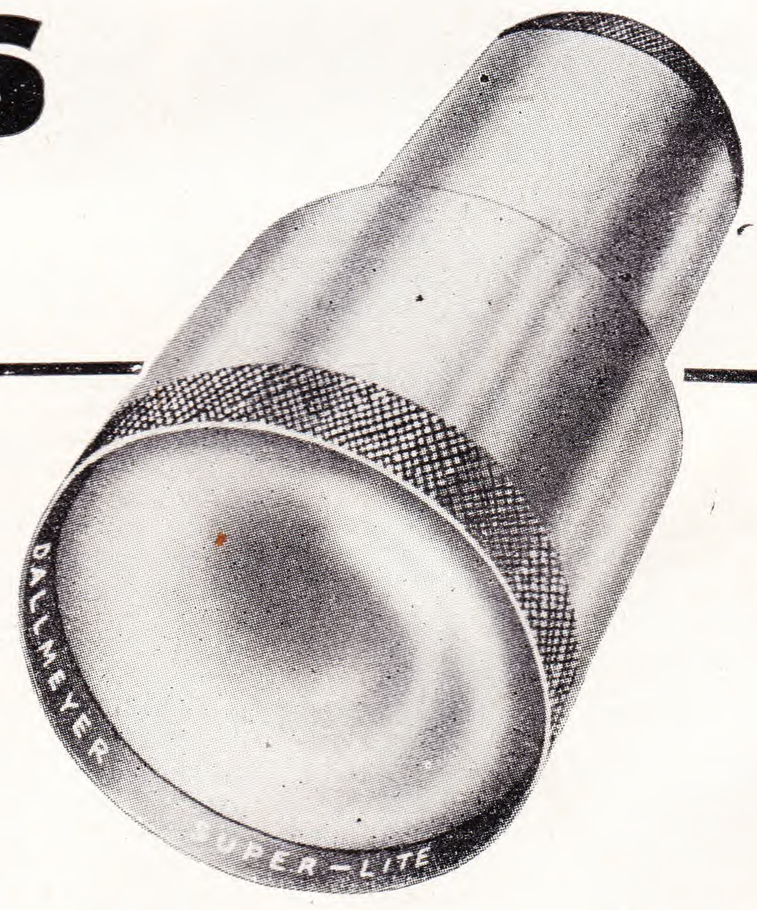

Dallmeyer Professional Cinematograph Lenses for both Taking and Projection have held pride of place since the inception of Cinematography. Taking Lenses are now listed with apertures from f/1.5, Telephoto Types f/4.5. Projection Lenses with apertures from f/1.9, fitting all makes and types of Projectors. Where desired, they can be supplied "Dallcoated" (Bloomed). Although at present in short supply, they are worth waiting for.

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ADVANCES IN STUDIO SOUND-PROOFING WORK FROM THE EARLY TALKIE DAYS TO THE PRESENT TIME

Cullum's Improved Methods of Acoustic Treatment with Rock Wool Persists as the Absorption Element

THE introduction of sound into the film Industry brought Horace Cullum into touch with many new problems, and J. Cullum, one of the company's directors, went to America to see how things were being tackled and what acoustical materials were giving most satisfactory results.

The original British and Dominion studios at Elstree were equipped in 1929 with acoustic treatment along similar lines to U.S. studios. The treatment consisted of a 4-in. thickness of rock wool applied on the wall and ceiling surfaces.

As far as structural design was concerned, these studios adopted the rather elaborate U.S. procedure of a "Shell within a Shell." The outer brick wall supported a steel truss roof, and within this outer building there was a corridor and an inner brick wall carried a lattice girder and flat ceiling.

Rock wool treatment formed the inner surface of the inner shell to provide a suitable reverberation period.

Basically, the whole design was found to be very satisfactory. Among the problems presented were the design of suitable sound-resisting doors, treatment of ventilating systems to prevent the transmission of noise into the studios, the damping of the floor to prevent resonance, runways and gantries, and review rooms and theatre.

Sound transmission problems were often encountered and principles of discontinuity of structure were recommended and adopted where possible.

In the following years Cullum treated most of the leading British studios.

Much research work in addition to practical experience on these installations improved the methods of application, but showed that the original choice of rock wool as the sound-absorbing element gave an absorption frequency characteristic to the studios best suited to recording requirements.

Cullum, in covering the problem of sound in buildings, was able to introduce improvements in detail or fixing technique, developed, for instance, from factory installations for absorption of noise or from theatre installations, where problems are closely allied to those of the preview room and scoring stage.

Resonance is another trouble which must be watched. Any volume of air which is enclosed or substantially enclosed tends to resonate at a triple series of frequencies which may colour the recorded sound or lower the intelligibility of the reproduced speech, whether theatre acoustics are corrected or not. Naturally, if faults in the theatre coincide with similar faults in the film print, the defect will be magnified, and listening will become a strain.

Another reason why great care must be taken to avoid defects in the film is that the reproduced sound is louder than its viva-voce counterpart, and any excessive reverberation will thus be magnified.

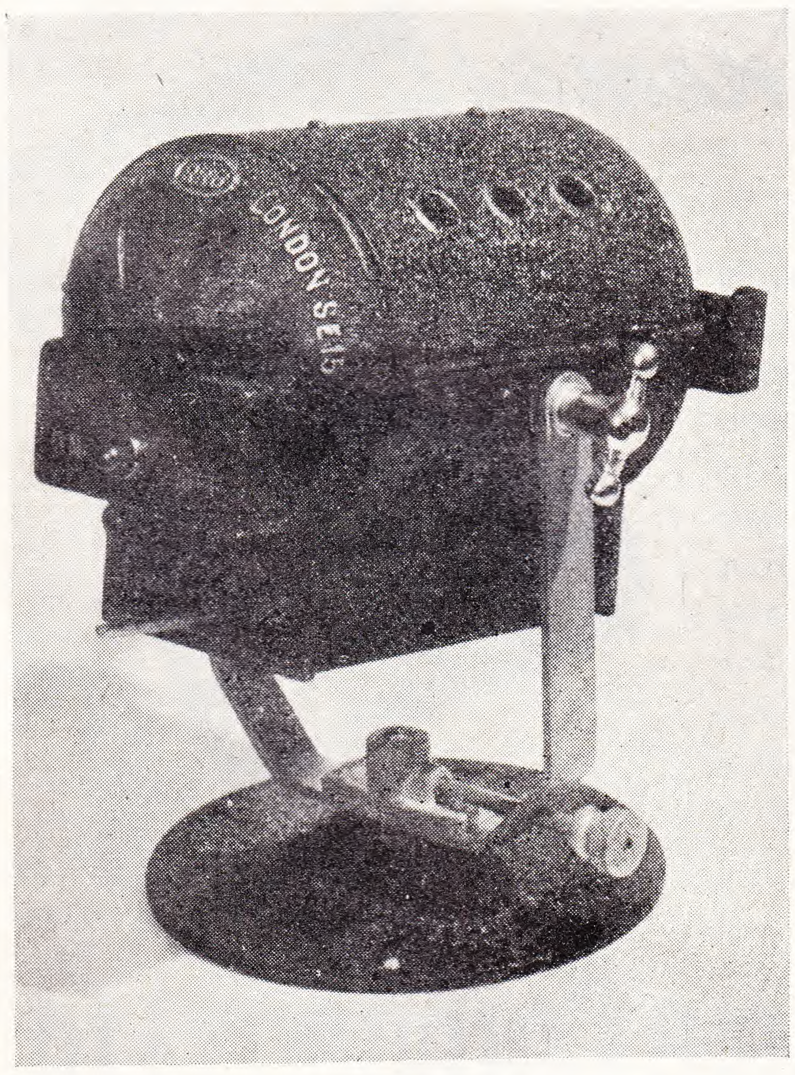
Recording in the studio is normally by a monaural channel, whereas human hearing is binaural. It has been found quite recently that this means lower reverberation times and requires greater care in the application of the acoustic treatment.

The installation of acoustic treatment in the new Warner studios, Teddington, including all the associated acoustic problems, is in the hands of Cullum. Specially developed modern door equipment is being installed, so that the films recorded in these studios shall lack nothing from the acoustic standpoint.

The same team of men is employed for these latest constructional works as were trained nearly 20 years ago for the earliest rock wool installations in this country.

NOVEL FEATURES GIVE STABLE LIGHT SOURCE IN BEARD H.I. ARC LAMP

Rotating Positive Carbon Trim: Improved Nickel Alloy Contacts



The miniature 100-watt incandescent highlight can be easily concealed on the set to eliminate shadows or to produce headlights

A NEW type carbon feed mechanism is one of several new features of a 145-150 amp. H.I. arc spot listed by R. R. Beard. A 100-watt miniature spotlight, designed to fulfil a demand from the studios, is another of the firm's new products.

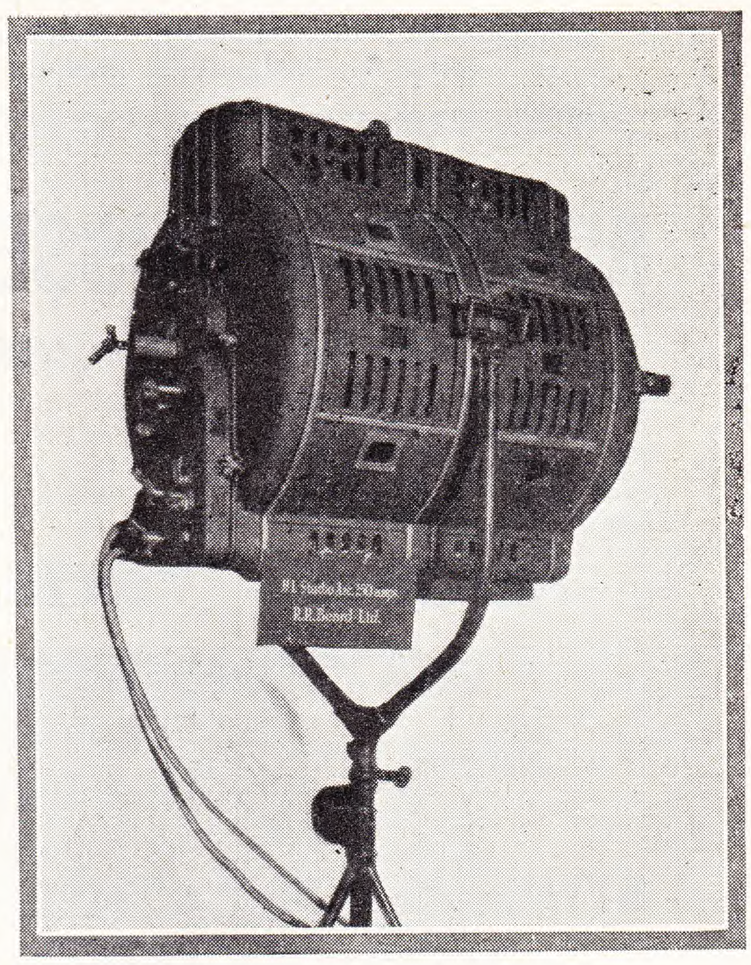
In the design of the H.I. arc mechanism, provision has been made for rotation of a 16-mm. positive trim, at a speed of 14 r.p.m. This, it is claimed, produces a symmetrical positive crater, giving a stable arc of constant candle-power and uniform spectrum.

Rotation of the positive and feed of both carbons is controlled by a motor and reduction gearing, grease packed and totally enclosed in a separate compartment. Controls are also provided for manual adjustments for varying speed of rotation and feed in accordance with burning requirements. Carbon sizes used are 16 mm. by 20 in. positive and 11 mm. by 8 in. negative.

Improved positive carbon contacts, cast from nickel alloy, are used. Another feature is a device incorporated in the positive feed mechanism to allow the use of small carbon ends for test or short sequences.

The entire arc assembly is mounted as an integral unit on an end plate, six master bolts allowing the unit to be withdrawn easily from the lamp housing for cleaning and maintenance.

Mounted beneath the arc mechanism is a specially designed crater volt stabiliser. If supply voltage fluctuates, the stabiliser is brought into operation by an external connection on the end plate. A two-pin base is also incorporated so that an arc voltmeter can be plugged in for testing or to give a constant reading during operation. A noise-



A rotating 16-mm positive trim is one of the features of the Beard 145-150 amp H.I. arc lamp

less double-pole, knife-action switch, mounted in the end plate controls current supply, and is operated by an external handle which incorporates a polarity and supply indicator.

The optical system includes a 20-in. prismatic lens of short focal length, designed to correct spherical aberration and eliminate dark centres, giving an evenly distributed light field.

The lamp housing, double-walled to give adequate ventilation, is constructed of sheet metal and aluminium castings. To facilitate

Continued on page li

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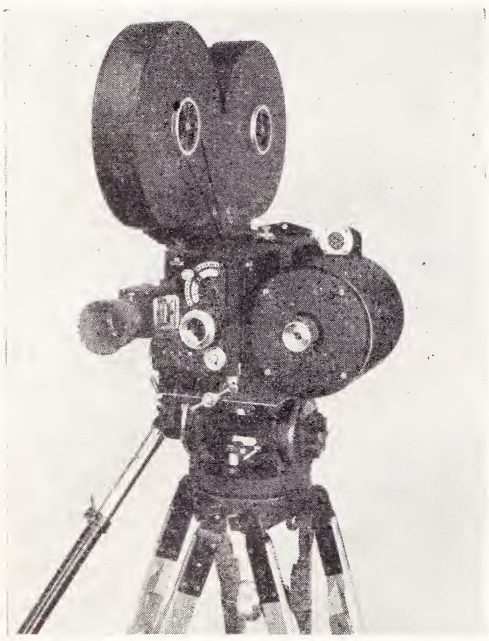


Rear view of the new Newall studio camera which will be available in a few months

Beard's Midget Spotlight

Continued from page xlix

trimming there are two large sliding doors, one each side of the housing. These make it unnecessary to return the lamp to the horizontal position when used on high-spot rails or any other position where the lamp is tilted. Operating controls and tilt mechanism are located on the end plate. Included is a new type burning-length indicator and spot positioning indicator.

The lamp head is supported on a "U"-shaped yoke of steel tubing and ductile fittings, and the pedestal is of the braced tripod type in steel tubing with bronze fittings, and is fitted with a crank-operated mechanical lift for the telescoping tube. When the lamp is required for overhead lighting the ballast resistance can be detached from the tripod.

The H.I. is also available in 120 amp. and 65 amp. models, fitted with 16 in. and 14 in. lenses, respectively.

The dimensions of the miniature 100-watt incandescent spotlight are six and a quarter inches long, five inches deep and five inches wide, which enables it to be concealed easily behind objects on the set to eliminate unwanted shadows or to produce highlights.

It is constructed of cast aluminium and sheet steel with a large door in the roof. It is fitted with a 3 in. prismatic condenser, recessed in the front of the housing, and an anodised reflector. Focusing from spot to flood is adjusted by a lever running from back to front in a slot at the base of the casing. A double pole switch and 2-amp. fuse is fitted into the rear of the housing.

The housing is pivoted in a steel tilting fork with clamping handle on the right-hand side. A 5 in. diameter light-weight base is provided with a pin to engage in the socket at the base of the fork. An adaptor is also provided so that it can be mounted on $1\frac{1}{8}$ in. pedestals or on a "flag" stand.

Other current Beard products include 500-watt, 1,000-watt, 2,000-watt, 5,000-watt spotlights using the improved Fresnel-type lens with honeycomb backing; a rifle lamp, designed for use with 1,000 or 1,500 watt general service globe; the 500 watt "Foo Foo" spotlight and the "Adjustaspot."

A NEWCOMER WITH A BIG FUTURE IN THE CAMERA MARKET

Distinctive Refinements which Recommend Newall's Latest Design

TO design a camera and build a prototype within ten months: that is the achievement of the Newall Engineering Co., of Peterborough, whose achievement is all the more remarkable when it is added that the prototype is not a hand-made job, but has been made to jigs and gauges, themselves made to the standard of accuracy for which Newall's enjoy a world-wide reputation.

The camera is of familiar design, reminiscent in some respects of the Mitchell, and contains all the refinements needed by the cameraman, without any gadgets. It has the usual 1,000 ft. magazines, four-lens turret, and locking-pin motion, *i.e.*, a 4-claw movement with register pins.

High Degree of Accuracy

The last is, of course, the one part of the camera calling for the highest possible degree of accuracy. The claws are actuated by a crank, so arranged in relation to the pivot that a full 170 deg. shutter opening is obtained. The lower part of the gate, plated with wear-resisting chromium, is curved to suit the path of the claws. The back plate is released by a couple of locks, and can be easily removed for cleaning. The register pins withdraw for threading by a simple movement of a knob.

The single sprocket has two pairs of film rollers, which are lifted for threading by the usual eccentric, but give rather more clearance than previous types. These two knobs, and also that controlling the locking pins in the motion, have projecting pins which fit into bushed recesses in the camera door; unless all three knobs are in the correct position, the camera will not close.

Between the gate and the lens are sets of adjustable masks controlled by the usual knobs above and at the side of the camera housing.

The turret accommodates lenses of all foci from 25 mm. upwards. The sun hood is carried on extension rods, and accommodates various mattes and filters, including the Wratten optical-flat filters.

View-Finding Equipment

Focusing is effected by sliding the body of the camera across behind the stationary lens and shutter unit, so that the view-finder comes in line with the taking lens. The finder is of excellent optical design; a bright image can be seen of the whole picture area, of course, right way up and corrected for right and left sense, and the movement of a knob gives alternative five times and ten times magnification for focusing. Provision is also made for a separate view-finder for use when shooting, having adjustment for parallax.

At the back of the camera the shutter shaft is extended for inching the motion when threading. Inside the grip is a miniature shutter reproducing the shutter opening; this opening can again be read, this time in degrees, on a scale behind an adjusting lever on the back of the camera, which enables the opening to be varied during shooting. Below is a 1,000-ft. dial to indicate the contents of the magazines, and to the left of this a three-figure footage counter and frame indicator.

The method of attachment of the driving motor is slightly improved, the release catch being more accessible. In the magazines, an improved device is provided for locking the lids; three projecting bolts which are actuated by a central handle—a far better idea than the usual thread, which easily clogs and gets tight. When the lids are unlocked, a red warning strip appears.

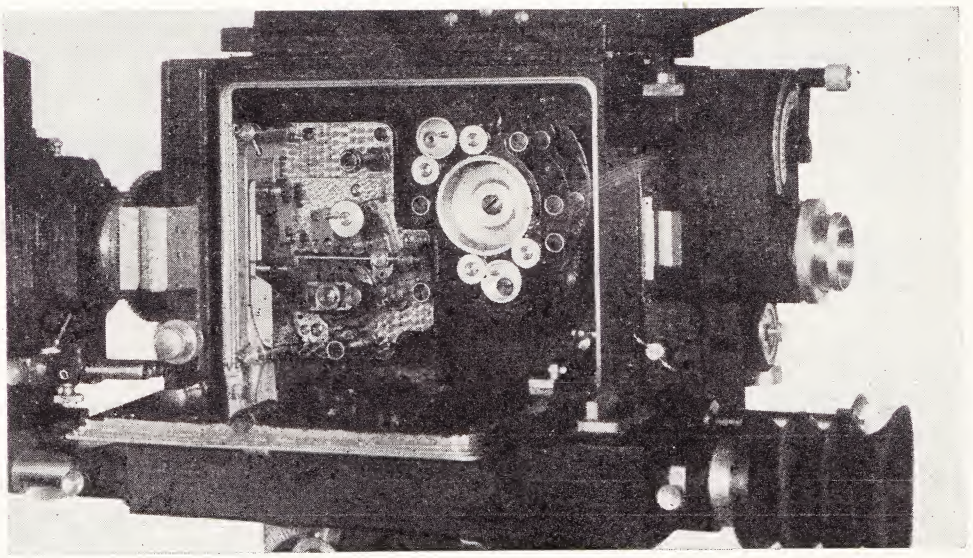
Special Blimp

The camera is not intended to be run in the studio without a blimp, but it is claimed that the noise level compares favourably with any other type of camera. A special type of blimp is now in course of manufacture.

The tripod is of the frictional type, with quick-grip leg locks. A velocitator is also in course of production.

While primarily designed for the Rank organisation, the prototype is being submitted to other studios for testing purposes.

It was made to the orders of Production Facilities (Films), Ltd., to be marketed by G.B.-Kalee, Ltd., which has manufacturing rights in this country of Bell and Howell equipment.



Gate mechanism of the new Newall camera which is reviewed on this page by R. H. Cricks, F.R.P.S.

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devoted their entire energies & resources to the war effort.

Now they are prepared to contribute fully towards the advancement of the British Film producing effort.

Enter the "Hewitt" Streamlined Spotlight

INTRODUCING NOVEL TYPE POSITIVE CARBON FEED

A DEPARTURE from conventional design has been made in the manufacture of the 2,000-watt "Hewitt" streamlined spotlight which, as exclusively announced in the Studio feature of the KINE. February 21 issue, is beng marketed by Multiple H.D. Industries.

This firm has also produced a prototype of a series of H.I. arcs, also of unorthodox design, and which incorporates a novel type positive carbon feed. Apart from rotating and feeding the carbon, the mechanism is used to convey current to the carbon, thus dispensing with separate contacts. By this method, it is claimed, a more absolute electrical contact is achieved, thereby producing an arc of greater stability and reducing noise to the absolute minimum.

Streamlined Body

The "Hewitt" 2,000-watt spotlight V.E. type, Model A, is constructed of pressed steel segments, electrically welded to circular end members which gives the body an ovate streamlined appearance. The design combines efficient ventilation with lightness and strength.

A noteworthy feature is that the lamp and reflector assembly and focusing mechanism are mounted directly on to the rear portion of the body. By unfastening two captive screws the entire assembly can be withdrawn from the housing. A large dial, clearly graduated from spot to flood, is conveniently positioned in the centre of the rear portion, beneath the operating handle. Within the handle is mounted a double switch, and a flush eight-pin socket is placed on the left-hand side of the rear portion to take the cable lead plug.

The optical system comprises a 10-in. Fresnel-type heat-resisting lens and a polished spherical rhodium-plated mirror. The front portion of the lamp in which the lens is mounted is hinged, and can be swung clear of the light beam, to enable the lamp to be used without lens when needed.

The stirrup which carries the body is of tubular steel with gunmetal yoke and $1\frac{1}{8}$-in. spigot. The trunnions are of gunmetal fitted with a conical locking device. Weight is 90 lb.

Winch Type Pedestal

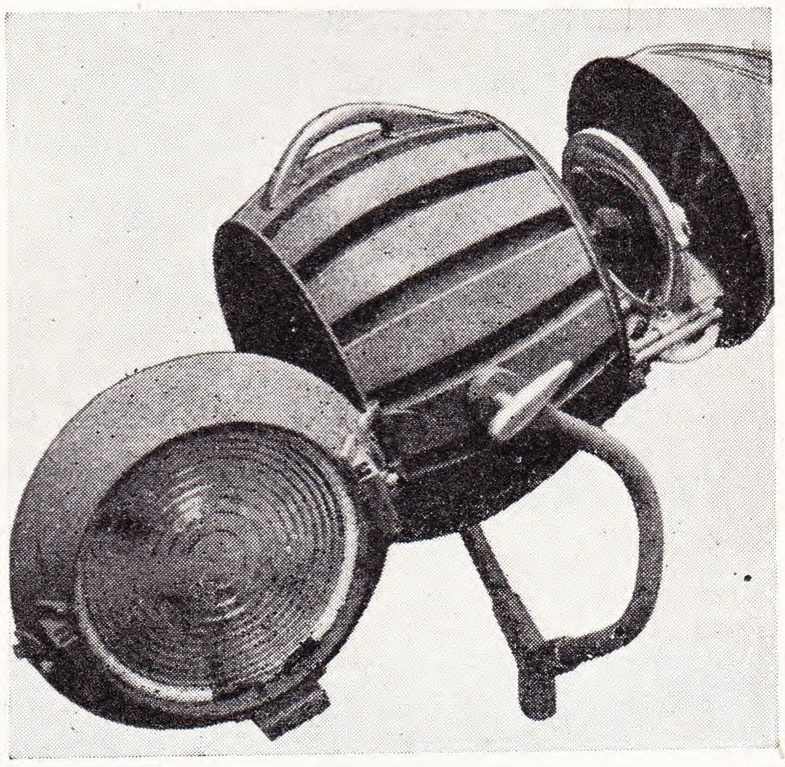
The pedestal used in conjunction with this lamp is the "Hewitt" Universal Winch-Type Collapsible Stand. It is constructed of pressed steel sections, tubular steel and gunmetal castings. It has a mechanical lift operated by a self-sustaining gearbox, capable of lifting any size lamp-house with minimum effort from 56 in. to 90 in.

The stand can be easily collapsed for transportation by pulling upwards any one of the three stay members which are connected to the tripod legs and to a ring which slides easily up the central lift tube. Weight 37 lb.

A 500-watt and a 5,000-watt spotlight are also in production.

Another of the firm's new products is the Hewitt Sky-pan or Broad, designed for 2,000-watt or 5,000-watt globes.

The housing is of reinforced sheet metal with vitreous enamel centre plate and two handles for tilting and elevating. A double-pole switch is provided at the back of the housing. The globe holder is self aligning and has a specially designed support to minimise the risk of globe breakages.



The Hewitt (Multiple H.D. Industries) studio 2 kw. lamp, as installed at Nettlefold Studios

MEETING THE DANGERS OF FIRE ON AND OFF THE FILM STUDIO SET

Pyrene's Complete Scheme of Protection to Cope with all Possible Risks

FIRE—a potential cause of danger to life and property in modern film studios—can be scientifically mastered. In spite of the varied and hazardous nature of the fire risks involved with the presence of timber, draperies, arc lamps, paint, inflammable liquids, electrical plant and celluloid, a complete scheme of protection is available to cope with all these risks.

The organisation which can provide this comprehensive service is the Pyrene Co., who manufacture appliances and installations to cope with every known fire danger.

The firm is already well ahead with a big post-war production programme. The works, now greatly extended, are equipped with new plant, and are manufacturing improved fire-fighting equipment to satisfy the demands of a world that is far more fire-conscious as a result of war experience. Their laboratory and experimental research departments are constantly employed in fathoming the problems of fire dangers and efficient methods for dealing with them.

General Fire Risk Faced

The Pyrene range of appliances, particularly suitable for film studio protection, include the following:—

Fires involving freely burning materials, such as wood, cloth, paper, draperies and upholstery, etc., are best tackled in the first place by first-aid hand appliances.

"Conquest" soda-acid fire extinguishers are made in a range of models employing the "turnover," "break-bottle" and CO_2 cartridge (water) methods of operation. These models are equally efficient in coping with such fires in their early stages.

For fires which have reached larger proportions there are Pyrene "Everyway" hose reels, which occupy a minimum of space and are extremely simple to use; chemically operated fire engines of 34 gal. capacity, and general fire appliances such as hose, hydrants, branchpipes, etc., which are installed in accordance with the structural requirements of the building.

Highly Inflammable Materials

To meet smaller risks, there is a range of 1 and 2 gall. "Phomene" hand fire extinguishers and Pyrene CO_2 gas extinguishers for fire dangers involving large quantities of oils, spirits, paints, varnishes, etc. There are also Pyrene foam-making branchpipes and complete fixed installations, using chemical foam, mechanical foam or CO_2 gas.

The Pyrene fire extinguisher, used so extensively against motor vehicle fires, is extremely effective and safe to use on electrical outbreaks. Pyrene CO_2 hand fire extinguishers and installations are also recommended for certain classes of electrical fire dangers.

Projector and Film Fires

The Pyrene automatic film fire extinguisher is designed specially for the purpose of extinguishing film fires on projectors. Should the film ignite in any part of the projector or sound unit, CO_2 gas is instantly discharged and the fire extinguished before more than a frame or so of film can be burned. It is, therefore, an easy matter to rejoin the film and continue the programme with a minimum of delay, the apparatus being absolutely unharmed by the extinguishing agent. CO_2 appliances and installations are also used for safeguarding films against fires in rewinding rooms and storage places.

Pyrene is prepared to place the services of experienced fire engineers at the disposal of those concerned with the fire safety of film studios.

PRODUCTION OF MEDICAL FILMS

Co-ordination Scheme

THE Medical Committee of the Scientific Film Association, of 34, Soho Square, London, W.1, has had before it recently the possibility that units which are planning the production of medical films may be working on the same subject in complete ignorance of what is being done by other units.

To this end, the Scientific Film Association has undertaken to run a voluntary co-ordination scheme designed to minimise the possibility of an overlap of effort.

The plan is as follows:—

1. If at the inception of a plan to make a new medical film the Medical Committee is informed confidentially, the Committee will do its best to inform the intending producer of existing films on the subject, and, if practicable, will arrange a viewing.

2. Where two or more organisations or persons more or less simultaneously disclose to the Committee the same or overlapping subjects for a medical film, the two parties concerned will be informed that others are in the field, but names will not be disclosed. If, and only if, both parties wish for a consultation, the Committee will arrange this, and will, in the case of collaboration as in individual work, assist with what technical advice is at its command.

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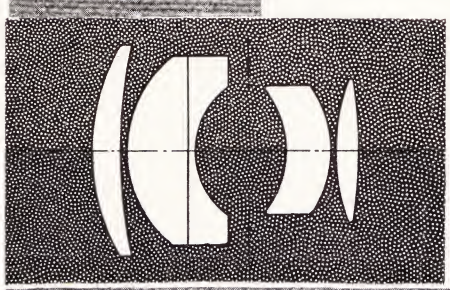
The CINE-UNILITE F.1.9

Patent Nos. 575075 and 575076

A specially computed modification of the new WRAY Unilite with its unique design allowing far greater marginal illumination than is usual in anastigmats of similar aperture.



Advantageous as this is for black and white cinematography, it is of particular importance in colour film making. Supplied in fixed or focussing setting suitable for mounting on any cine-camera, with focal lengths of 1" to 4".

WRAY (OPTICAL WORKS) LTD.
BROMLEY • KENT

THE BROCKLISS BACKGROUND SLIDE PROJECTOR

A New Piece of Apparatus Employing a Powerful High Intensity Arc with Special Cooling Cell

THE use of the background slide projector in the studio has contributed a great deal to the effectiveness of the photographed picture, to the stepping-up of schedule times and the keeping of projection costs down to an economic level.

Upon the efficiency of this important piece of apparatus so much depends that J. Frank Brockliss, Ltd., has made their model one of the most reliable in use. Recently designed and built, the new background slide projector projects a photographic slide on a background screen in the studio. The projection lamp is a Hall and Connolly high-intensity arc lamp using up to 200 amps., incorporating a special cooling cell, by the employment of which it is possible to use ordinary glass photographic slides without any risk or danger to the glass or photographic emulsion when used for any length of time.

More on the Way

Further improved models are now under construction which will put process background projection into a more important field in the future. This projector has recently been used in the production of several important films with great success.

The company has occupied for years a leading position in all projection equipment both for theatres and studios and by their introduction to the Industry of the Peerless Magnarc high-intensity projection lamp, the Monarc high-intensity projection lamp, Hall and Connolly high-intensity projection lamp, Simplex background process projector, Stelmar high-intensity spotlight, background slide projector, Moviola cutting and editing equipment, Thide electric changeovers, Bausch and Lomb mirrors, projection lenses and condensers, is looked to for all modern improvements for projection apparatus.

A Brockliss projection component is installed at many of our principal studios.

Exclusive Features

The Simplex E.7 mechanism contains features not obtainable on any other equipment, particularly featuring the front and rear twin synchronised shutters, demountable film trapdoor, one-shot internal oiling system, automatic fire shutter safety trip, guaranteeing absolute fire safety, cone-shape pad rings reducing sprocket wear—keeping edges of film in equal tension—new type gyroscopic automatic governor system, studio type film guides mounted on film trap preventing any side sway of film. Main gears revolve on fixed studs, thus eliminating any main frame wear.

The Super Simplex mechanism is of heavy robust construction, also incorporating the front and rear twin synchronous shutters and the very latest helical spiral bevel gearing, ensuring absolute quietness in operation, which is emphasised by the new introduction of the special shockproof gear.

The Peerless Magnarc high-intensity projection lamp gives high-class performance in three fields—namely, optical, electrical and mechanical design. Regarded as the most efficient optical system ever developed for arc lamps, the 14-in. diameter reflector covers all usable light. The lamp provides instantly accessible accurate means of focusing.

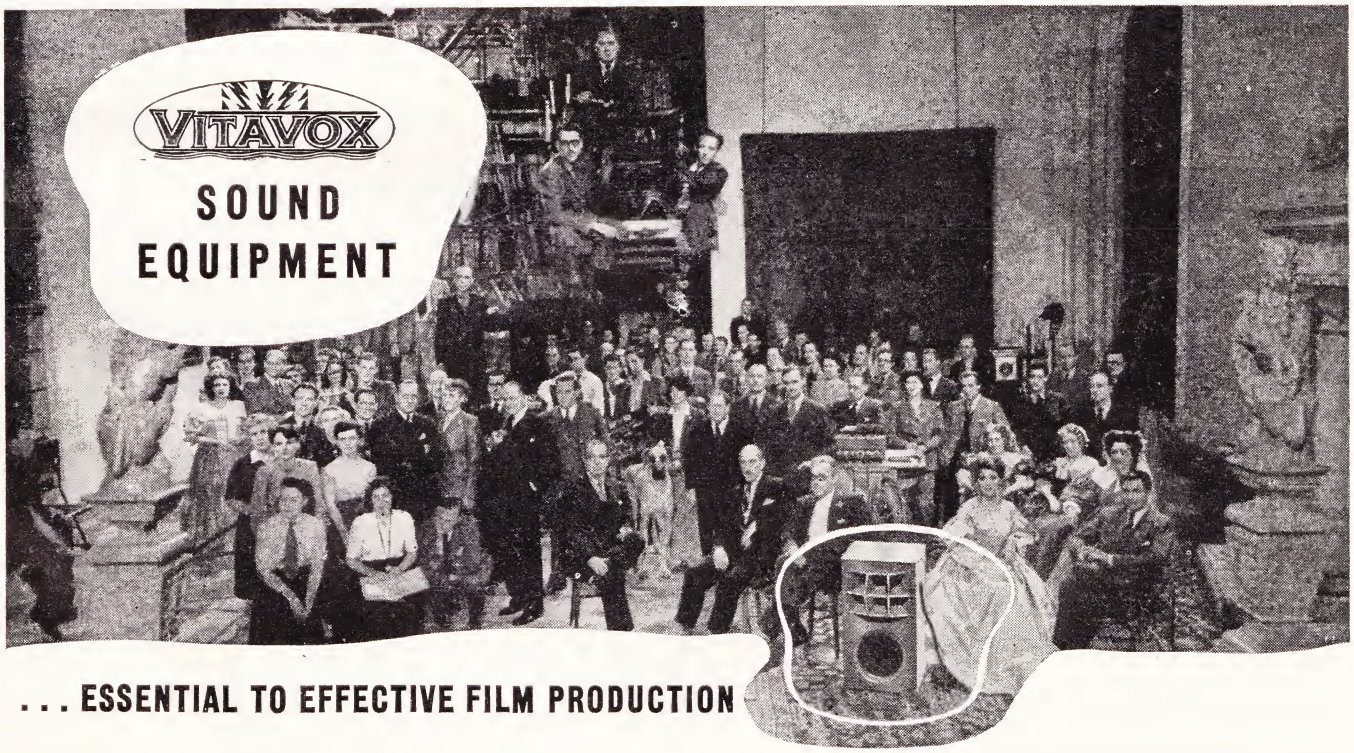
The arc feed is of wide range, and will accurately feed all carbon combinations at their respective rates within the amperage range (35-65 amps.). The permanent magnet is not influenced by the amount of current used at the arc, thus ensuring more suitable and intensely brilliant arc results.

The lamp has by far the fewest moving parts, unit built construction, the rear of the reflector being air cooled, entire negative feed assembly mounted back of the reflector out of the heat of the arc, and only one rotating shaft in the entire arc compartment of the lamphouse.

Naming the "Everest"

The decision to name the new Vinten studio camera the "Everest" was the result of a competition in which a number of praiseworthy titles were submitted.

The prize offered has been divided between Mrs. Newman (London) and S. H. Cook (London), who both submitted the name "Everest." Consolation prizes have been awarded to Messrs. Chariton (Manchester), Conry (Thornton Heath) and Perkins (London) for other suggestions.



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VITAVOX Sound Equipment has a very real place in the Motion Picture Industry. For example, the high fidelity "Bitone" Speaker was used during the production of Gainsborough's "The Wicked Lady" as an effective recording check. We will gladly send full details of the complete VITAVOX range on request or discuss the production of equipment for specific needs.

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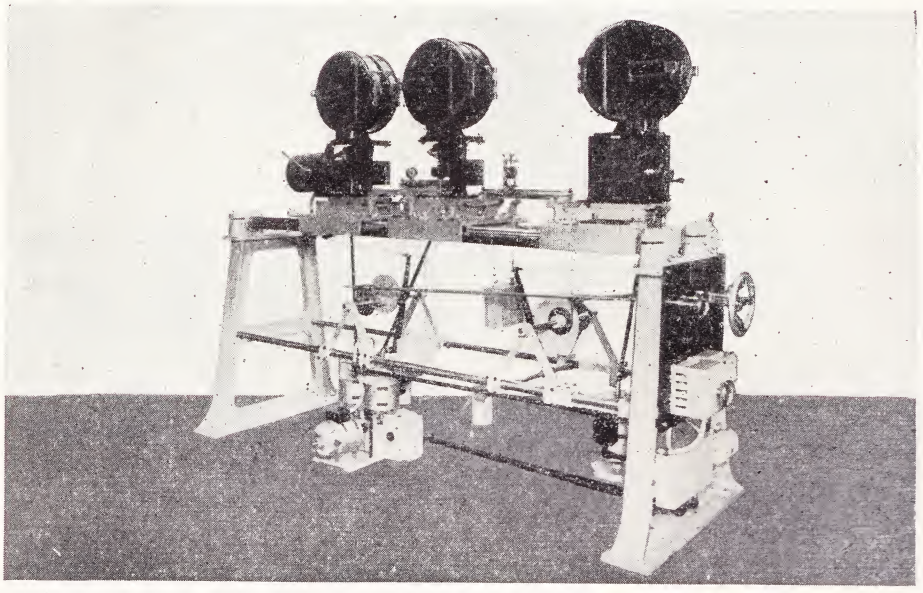

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ENQUIRIES INVITED

RCA READY WITH WIDE RANGE OF NEW EQUIPMENT

Latest Type Recording Channels for 35-mm. Sub-standard and Newsreel Work

THE release of a great deal of studio space has resulted in a demand for the replacement of equipment destroyed by enemy action and for the supply of new recording apparatus of the latest type.

RCA has been able to fulfil both of these requirements, and, at the same time, to maintain an adequate studio service for its licensees.

New installations being planned and installed utilise the wide experience and research work of the parent company and RCA Photophone, and are designed to operate in an unusually flexible manner.

New Recording Channel

The new PM.38E major recording channel, whilst retaining all the well-known advantages of the magnetic drive, with its perfection of film movement, the first and most exacting requirements of a recording machine, incorporates a number of refinements, including a Photronic Exposure Meter, and measuring apparatus enabling a close check to be kept on laboratory processing. The optimum photographic image, with its resultant improvement in sound quality is thus assured.

Electronic mixing is provided in such a manner that the most suitable settings can readily be made, to accommodate the various recording conditions encountered.

An important feature is the provision, if desired, of facilities for changing the type of recorded variable area sound track from Standard Duplex to Class "A" Push-pull, within the space of a few minutes. The recorder thus becomes a dual purpose instrument capable of utilising the advantages of a push-pull sound track for original negatives, and of making re-recorded negatives for release work.

The newest types of uni-directional, bi-directional and omni-directional microphones are supplied, catering for the different requirements met with in the field.

A new type of microphone with ultra-directional properties known as the "Line Microphone," is available and is invaluable where it is desired to eliminate unwanted sounds.

The complete channel, which may include a high quality synchronous disc recording and reproducing mechanism, can be furnished, either as a mobile equipment, complete with its own power plant, or as a static installation.

These features, combined with the high quality of workmanship exhibited on all RCA products, enable the finest sound recordings to be made under any circumstances.

Mobile Equipment

In cases where the first requirements are lightness and transportability, the PM.45 recording channel provides the ideal solution.

A compact channel, comprising three major units, together with the attendant accessories and power supplies, it can be operated either with a DC/AC Interlock system of drive with its consequent small battery requirements, or with a normal three-phase system.

Electronic mixing is provided, and the feature of recording Standard Duplex or Class "A" Push-Pull tracks, can be used with this channel as with the PM.38E.

A very important point in the design of this machine is a device whereby recordings can be made either on 35-mm. or 16-mm. stock. With the increasing demand for sub-standard films, this is an invaluable feature, as the equipment may be used for direct recording on 16-mm. film, or in combination with a soundhead, used for transfer work from 35-mm. to 16-mm. Special correction devices are included in the channel for use when recording on the sub-standard film.

This equipment can be very conveniently mounted in a small truck of the utility type, resulting in a small fast unit requiring the minimum of maintenance. The entire channel can be de-mounted at will and set up in any convenient location.

Newsreel Facilities

The third of the new channels is the PM.44 combined film portable equipment.

Designed expressly for newsreel work, its features are lightness, compactness and the rapidity with which it can be brought into action. The recording head, mounted on well-known picture cameras, records a Class "B" push-pull variable area sound track. This combines a low background noise without the need for special ground noise reduction apparatus, two points of importance in newsreel work. The equipment can be conveniently carried in a saloon car.

In addition to the recording channels outlined above, RCA are continuing to develop and improve the re-recording facilities offered to the studios.

Very comprehensive equipment is being designed and installed to deal with multi-channel work, both in re-recording and music scoring, coupled with the latest designs of acoustical treatment.

An Experiment that came off....

WARDROBE POOL SUCCESS

In 1941, when clothes rationing came into being, Gainsborough Pictures (1928) Ltd., by arrangement with the Board of Trade, pooled its wardrobes at the Shepherd's Bush and Islington Studios, and made the stock available to the film and theatre industries generally. Nearly 8,000 articles were sorted and classified; many hundreds of dresses were photographed and a pictorial catalogue compiled. It was a job well worth doing

BECAUSE

by May, 1946, the clothes sent out on hire represented a total of 91,864 coupons; and more than 100 productions have been assisted in the provision of essential wardrobe,

SO

IF YOU HAVE A DRESS PROBLEM

TELEPHONE

ERNEST BEHA

WARDROBE STORES MANAGER AT SHEPHERD'S BUSH 1210

WESTERN ELECTRIC'S AUTOMATIC RECORDER CONTROL

An Ingenious Device Ensuring the Speedy and Correct Operation Preceding and Following each "Take"

By R. J. ENGLER, Recording Director

ALTHOUGH the main features of the new Western Electric 35-mm. studio sound recording machine are 200 mil push pull magnetic sealed dust and moisture proof light valves, highly efficient anamorphotic lens system and virtually flutter free film motion this recording machine may be fitted with an automatic recorder control.

This device assures the producer of the speedy and correct operation of all the various functions that must be performed immediately preceding and following each "take." The automatic recorder control mounts beneath the recording machine proper and forms the base thereof.

Starting the recording system requires the performance of eight functions in timed sequence. To stop the system three functions must also occur in timed sequence. This automatic recorder control system performs these necessary functions in the minimum length of time by the simple operation of a single switch.

Signal lights furnish a visual indication that each function has been properly performed. A remote switch is also provided for operation of the automatic control at some point remote from the recording machine proper. This switch may be operated by the sound mixer or by the director or his appointee.

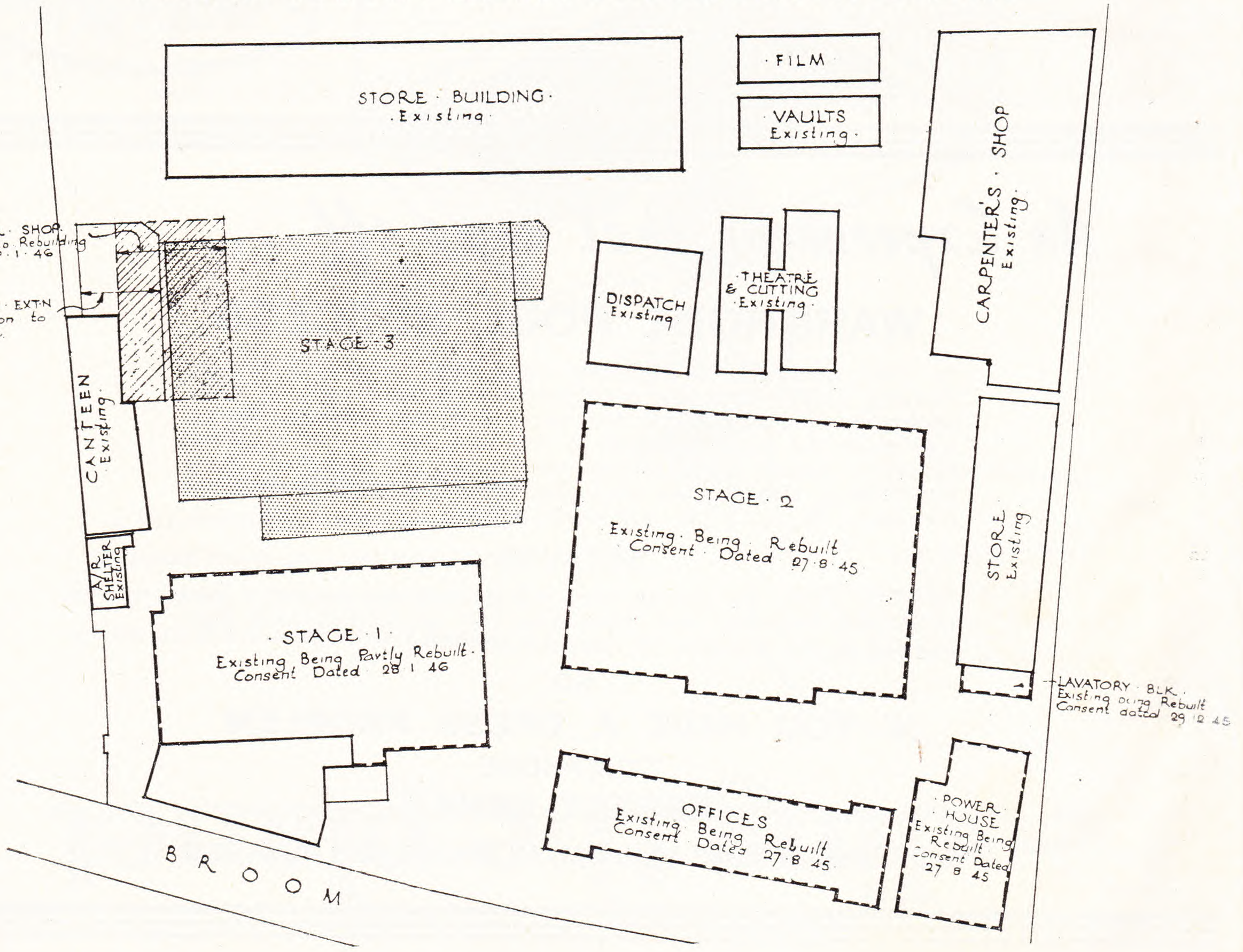
Upon starting, an identifying number is automatically photographed in the sound track area, together with such identifying information as may be useful to the cutters during the assembly of the various sound "takes." A hole is then punched through the film to aid the laboratory personnel in identifying certain sections of the film in the dark room. Following the slating and punching operation the recording machine motor is started and the recording lamp is lighted. A series of relays then connect the speech circuit to the modulator, which is followed by application of the noise reduction circuit.

When the film recording machine is up to speed a bloop or synchronising mark is photographed on to the film, and the same electrical impulse is sent to the cameras to photograph a similar synchronising mark on to the picture film. The recording shutter in the recording machine is then raised and the recorder is ready to record sound. A glance on the part of the operator at the indicating lights is sufficient assurance that all of these functions have been completed.

When the "take" is completed, the speech circuit is disconnected first, producing 6 in. of unmodulated sound track containing noise reduction; the noise reduction circuit is then disconnected and 6 in. of unmodulated sound track without noise reduction is exposed. This assures that each "take" contains an adequate amount of both biased and unbiased sound track for the purpose of laboratory measurements.

Following these functions, the shutter closes, the lamp is turned off and the motor is stopped. At this time the "take" counter of the automatic slating device advances to show the number for the next "take." All of these operations are fully automatic and are merely performed by the operation of a single "on" and "off" switch.

PLAN OF THE NEW LAYOUT FOR TEDDINGTON STUDIOS



A REVIEW OF PROGRESS

NOW we can see the shape of things to come. This review of British studio progress records reconstruction as graphically as the first one detailed the possibilities for the future. Then we told of the things to be done: now we give a mass of fact about what is being done.

The plans made during the war years are now being turned into bricks and concrete, steel and glass, negative in the can. It is a slow process—necessarily so in these days of restrictions—but all the time the Industry not only looks forward but moves forward.

This drive to restore our studios to their immediate pre-war status, and then to create a modern production business equal in size and efficiency to the best in the world, has one outstanding characteristic. It is a concerted drive.

The producers have given wholehearted support to their own organisation, the British Film Producers' Association, whose new Director-General, Sir Henry French, one of the country's greatest administrators, outlines the whole future of the British production industry in a forthright article on this page.

It would be foolish to minimise the problems of this reconstruction drive. shortages of labour, material and new equipment are all holding up work here, hindering installations there. But our producers, represented by the voice of the B.F.P.A., realise that they have the support of a Government which, in November, 1945, pledged: "Homes first, studios second."

So the work goes on, gathering momentum every day as more labour and materials become available.

In this second post-war interim report of British studio activity an authoritative picture has been built up of what is happening inside the production business to-day. It has been compiled after talks with producers, their architects, studio managers, heads of equipment firms and—the men on the job.

But the review does more than report the studio scene to-day. It analyses, from evidence provided from every production office in the country, what the production position is likely to be during the next twelve months.

Together, the news and views blend to provide a picture of the British production industry to-day, a picture of our biggest production of all time.

QUOTA—THE MAJOR PROBLEM

ALL our hopes as regards expansion of the British film Industry will depend on the Government's attitude towards the proposed revision of the Quota Act when the Government reviews it in 1947, writes Sir Henry French in this article. The B.F.P.A.'s main object in putting forward recommendations to the Government will be to assure that British films have the prospect of securing adequate screen time in this country based on their merits.

by Sir HENRY FRENCH, Director-General of B.F.P.A.

IT has been my experience, both when I was associated with the Ministry of Agriculture and the Ministry of Food, that optimism is a good thing. It leads to enthusiasm for the job.

But film people can take their optimism too far, and in my opinion current timetables and schedules are in many cases over-optimistic.

We would all like to see the production industry working at full pressure by the end of the year: but I do not think we can reasonably expect to see our studios rehabilitated and in full working order until later than that, say, the end of 1948.

The public in this country is expecting something big from British producers. They have seen during the past few years sufficient British films to know that there is good ground for expecting something important on the screen which will have a British origin. I am not referring merely to a film which is made in a British studio, but to a film which is through and through a British product.

Competition Welcomed

I can see no grounds on which anybody can reasonably object to foreign companies making films in this country which are in themselves good films: but I see the strongest objection to films being made here in our studios by any company—British or American—which are designed merely to satisfy a legal requirement. In fact, it is a healthy thing that films should be made in this country by people who have had extensive film-making experience in the U.S. or elsewhere.

After all, the only test imposed by the public on any film is that it should be entertaining.

One of the major problems which stands before British producers to-day is this question of the Quota Act. There are some people who argue that the British industry should be now in a position to stand on its own feet without the aid of protective legislation, and others who seek to enlarge the restrictions in the Quota Act when it comes up for renewal next year.

Facing Facts

I believe in facing facts. This matter is fundamental. I am very fortunate in coming into the Industry at such an *important* moment.

It is too early yet for me to make any detailed statement concerning the attitude of the British Film Producers' Association to this matter, but I will say this: No responsible persons want to exclude Hollywood pictures from this country. It is a good thing for kinema-goers to have a variety of British, U.S., or any other foreign product from which to choose their own entertainment and we see no reason why this should not continue.

We believe that the situation is different from 1938. Many films produced by British firms now in circulation are comparable with the best products that Hollywood can turn out. We are anxious that high quality British products should be given a fair chance of being shown on the screens of our own country.

Protection Essential

Protective legislation is essential for this industry and will continue to be essential for some time. What would have happened if the war had not come, I cannot say; but should Parliament decide to do nothing to replace the Act of 1938 then the splendid promise of this industry will inevitably be dimmed.

Protection for British films is one thing—their production is another. We cannot expect to turn out a larger number of pictures of high quality from our studios than we are to-day until many studios, now out of action because of the war, and also the new studios which have been planned have been built or converted and equipped and staffed with craftsmen, technicians and artistes.

It is not only a question of repairing and putting up new stages. We all know of the acute shortage of materials, building labour and technical man-power which exists as a direct result of the chaos of war.

The Government, tackling a formidable problem, is doing its best to see that adequate building and production materials are placed at the Industry's disposal. We must continue to look to the various Government Departments concerned for the highest priority and for greater expedition in meeting the Industry's needs.

More Labour Needed

But one great problem which we shall have to overcome for ourselves is providing adequate technical labour.

The B.F.P.A. is in touch with the trade unions with a view to devising adequate training and apprenticeship schemes, and I hope these will be forthcoming before long.

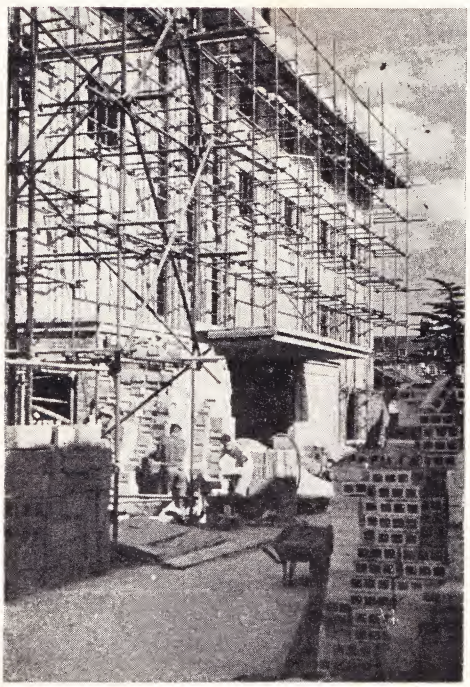
It is essential that as an Industry we should have a first-rate organisation for training our young assistants thoroughly by the side of skilled men as well as for encouraging and educating new entrants to the Industry.

I have been impressed, during the first few weeks of my work for the production industry, with the tremendous enthusiasm that one sees everywhere for raising production to higher standards of efficiency than existed in pre-war days. Such standards, equal to any set by foreign production industries, can, I am convinced, be attained by British men and women working in British studios. There is, however, one very disturbing factor. Pictures take too long to make. Every effort will have to be made in the next year or two to cut out ruthlessly every unnecessary day. By this means costs of production will be reduced and the output per stage per year will be increased.

THE "KINE." PRESENTS A COMPLETE

REHABILITATION SURVEY

THE BRITISH STUDIO SCENE TO-DAY



Working on the main stage block at Teddington, round which are dressing rooms, wardrobe facilities, and sound bays

The Southall studios' new carpenters' shop, put up on a recently purchased adjacent piece of land

BRITISH studios — representing 14 studios, 49 sound stages, and 422,658 sq. ft. of production space currently in use—will make 45 feature pictures this year. Since the KINE.'s first post-war British Studio Section went to press in June, good progress has been made in the rehabilitation of our major production plants.

The progress, in itself not spectacular, is satisfactory in the light of the facts—shortage of labour, materials and new equipment. But it will be some months before the first major production plants, put out of action by their war-time service, will be turning out regular programmes.

Work Under Way

Here is a nutshell description of the reconstruction work to date:

Worton Hall.—Studio reopened on August 6, with a George King production. Sir Alexander Korda pictures follow-in next month.

A.B.P.C., Elstree.—Contractors started work in July. Four stages, the company estimates, will be ready for production in August, 1947.

M-G-M, Elstree. — Work proceeding steadily. Stages have been stripped, roofs are now being heightened. Lot cleared of Government-placed huts. Production unlikely for eight months.

Southall.—Studio, now controlled by Cromwell Film Studios, a Mark Rubens' company, has been put into production order and is expecting to accommodate a unit before the end of the year.

Teddington.—Rapid progress on the building of the "blitzed" stage. Every possibility of opening on proposed date, January 1.

Many More Stages

Work in other studios is going ahead. Twickenham, which was acquired in August, together with Riverside, by Alliance Film Studios (another of Mark Rubens' companies) from the Jack Buchanan interests, is being cleaned up. Re-flooring is in progress. The company contemplates putting up more stages when the building position is less acute.

Plans for the new studio at Brighton—outlined in the last Section—are waiting for the word "go" from the Government departments concerned. Eric L. H. Cosby, recently acquiring controlling interests in Bruton Films and Premier Distributors, is associated with Lord Davidson and Sir Herbert Morgan in this new project.

The Board of Trade has announced that British studios will have available by the end of 1946 space fully equivalent to that in use immediately before the war. Indeed, the space will be "available": but it will not be in production order.

Five studios, representing 13 sound stages and a total production area of 180,040 sq. ft., will not be back in production for at least another twelve months—with the excepion of Warner's Teddington plant.

With the completion of more new studios —two have been announced in the KINE. during the past two months, the Bernstein production plant, and Clapham Park studio of which Lt.-Col. Robert Crerar, A. de Lasta and J. C. Swarbrick are directors—the British production industry will be able to step up its annual output, now stabilised over the last four years at an average of 54.

The output figures are fair, although critics of the British production industry have voiced their complaint that it does not compare with the 200 pictures a year of the 1937 era.

But these days our studios are turning out a quality product—sometimes, I think, with too much accent on the quality.

A Great Achievement

The Britain-Hollywood output chart, elsewhere in this issue, gives factual proof of the high standard of output set by British producers. There can be little wrong with a rehabilitation and production policy when an industry, which has been hit by war-time conditions as badly as the British film Industry, can turn out from its major studios as many as 40 pictures per 384,558 sq. ft. of studio space, when Hollywood's major studios need 291,600 sq. ft. of space to turn out the same number of similar feature films.

Hollywood has fewer labour, material and equipment problems than we have.

Look at these three vital commodities one by one, and it's pretty easy to estimate the problems which British producers are having to overcome:—

Labour.—Contractors engaged on reconstruction all give the same report: "Shortage of man-power is slowing down work." Ministry of Labour is releasing no men for studio work unless they are over the "direction age." Only young blood can come from demobbed men picking up jobs near home on their own initiative. As one foreman said to me: "It's as though I was to ask you to come and have a drink with me—knowing that the pubs are closed!"

General studio work is at times slowed down by labour shortages, the country's man-power being put on the number one priority—homes for the people.

Materials.—Materials for reconstruction have been allocated satisfactorily; but in

In this detailed article, the "Kine.'s" Studio Correspondent, P. G. Baker, presents an authoritative studio-by-studio report with pictures on the latest developments in the production industry's great reconstruction drive. It has been compiled after consultations with producers, studio managers, company architects, building contractors—and the men on the job. It paints a picture of the biggest production job ever to be tackled by the British Industry.

most cases the materials have not been of the type which would have been chosen for use in pre-war days.

Top material shortage is in the producing studios. Timber and plaster, vital commodities, are most difficult to obtain, the Government reluctantly having to make a 10 per cent. cut on all studio timber estimates for the next six-month period. With the trend on increased numbers of pictures, plus the fact that timber supplied is invariably unseasoned and cannot be used twice, this is a serious position.

Make-up chemicals, towels and other production accessories have all been in short supply.

Equipment Shortage

Equipment.—New equipment is being turned out by manufacturers as quickly as possible; but it is not quick enough to meet immediate needs. Manufacturers in Britain, themselves short of raw materials, are finding it hard going to meet current studio demands; and if licences for U.S. gear are granted, it takes many months before deliveries can be made. Orders for studios which are not yet ready for production have been switched to producing studios in urgent need of new gear, and in this way manufacturers have been keeping the production industry supplied, and no dislocation to work has resulted. But lights, booms and cameras are still top on the "urgent" list.

General opinion is that the lean period is passing. New gear now coming off the production lines (like the Newall camera and the Vinten velocitator) will be turned out in greater quantities by the end of the year. Labour shortages are bound to be eased as more men are demobbed, and at recent meetings the B.F.P.A. has been hinting at improvements in the supplies of raw materials.

As these working problems are eased, producers will have to look at their internal organisation. Recent events—such as the much-discussed Boulting Brothers controversy over the postponement of "Fame is the Spur"—show that there are weaknesses in our production set-up. Schedules will have to be carefully watched and subjects more carefully selected for the international market.

But these weaknesses appear trivial when compared with the first-rate job the Industry is doing to put its production house in order. Every studio is doing something to make its lot more suitable for efficient film-making.

A.B.P.C. Good Progress

The main job of studio reconstruction—at the A.B.P.C. studios, Elstree—is now well ahead. This project, which I outlined in the June Studio Supplement, includes the rebuilding of the main stages and the transportation of the administrative wing from its present central site to a space along the side of the main studio block.

I spent a day looking over the initial stages of the work with veteran studio manager Joe Grossman. Joe is as much of the A.B.P.C. studios as the bricks and mortar which are now being pulled down to adapt the premises to more modern design.

The company's architect, W. R. Glen, has done a first-class job.

It is hoped that the first half of the plan—to have four stages in production—will be complete by August of next year, so that building can then go ahead on the second stage of reconstruction, namely, to put up four more stages on the lot. But I think this is a very optimistic estimate.

As I have already mentioned, studios are finding reconstruction work hard going because of labour shortages, but the A.B.P.C. contractor, Robert Davidson, had a first-rate gang of some 35 men on the job of demolition when I visited the studio.

I saw the final stages of stripping, while the steel construction men—this work is being done by T. C. Jones—were beginning to put up the supports for the new administration block.

Other contractors include: Jeffreys, heating; Thermacoustic, sound proofing; and Concrete, Ltd., for stage flooring. Others have yet to be signed up.

The stages themselves are being built with the highly efficient Phorpres blocks, themselves a great addition to the task of sound proofing.

Conversion for Colour

The power-house, I believe, needs little alteration—a few transformer and rectifier additions to make it possible for Technicolor lighting on the stages. The house's present gear includes 2 A.C./D.C. rotary convertors (1,180 amps., 415 volts, A.C. side, 3,125 amps., 2 × 120 volts, D.C. side) and a set of Bruce-peebles rectifiers. The new designs will bring it up to the latest buss-bar principle at grid level.

Typical of the minor problems which are having to be overcome is the laying of the cables from the power-house to the stages. Much of the present cabling system is being retained, but outside the power-house itself the surface drain has to be diverted to make way for the now enlarged cable duct.

The supply of new studio gear is, of course, still a distant project: but this is all in the hands of J. R. Gilbert, studio manager at the Warner Teddington plant, and his electrical engineer, F. Royls.

It has already been jointly announced by A.B.P.C. and Warner that much equipment will be supplied by the Warner Burbank studios.

This is a detailed analysis of the alterations which are being made to the A.B.P.C. Elstree studios:

The lot on which the studio is situated extends to some 30 acres with main frontage to Shenley Road and Elstree Way.

Acoustic Treatment

All existing buildings are being stripped until only the steel frame remains standing, and around the steel frame is being constructed hollow brick walling to serve the double purpose of excluding external noises and providing the necessary inlet and extra ducting and service runs.

The general grouping of the buildings is:

(a) MAIN FILM STAGES.—Four in number—each stage measures 150 ft. in length by 100 ft. in width and 40 ft. in height from floor to tie beam of steel roof trusses. All gantries, runways, and trunking are located above this level.

All stages are to be grouped under one main roof—only a hollow brick wall separating one stage from another, and extending to a length of some 300 ft. along each double stage. Dressing-room and plant-room blocks, four storeys in height, run along this length.

The ground floor of this block includes the wardrobe rooms, hairdressing rooms, retiring and rest rooms, bays for sound trucks, dark rooms, camera rooms and directors' offices.

The first floor has female star artists' rooms (eight in number)—each having spray and shower compartments; two rooms for small-part artists, equipped with sprays and showers; two large chorus rooms with spacious wash-up, spray and shower rooms adjoining.

On the second floor are the male star artists' rooms (eight in number)—all similar to the first-floor rooms.

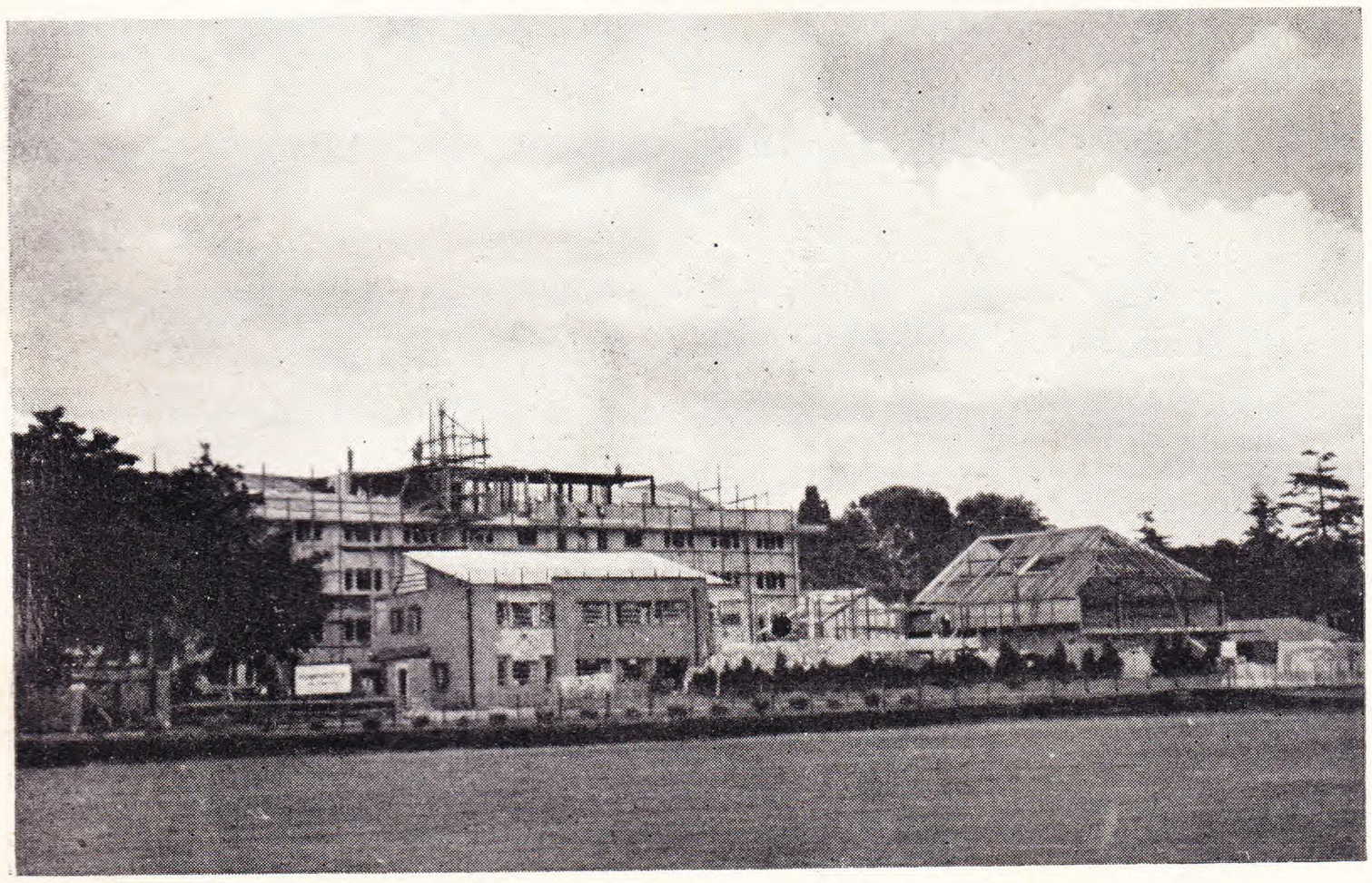
The third floor will accommodate air conditioning and other plant rooms.

Each studio will be acoustically treated on the latest principle to ensure perfect sound reproduction.

The air conditioning plant—comprising eight distinct units (one unit for each studio), each unit separately operated by remote control—is novel in design and should provide an exceptionally high standard of efficiency. An even temperature will be maintained at all times by thermostatic control.

(b) COMPOSITE BUILDINGS, separated

Continued on page ix



Teddington's main stage, nearly completed, will be ready for production in January

BRITISH STUDIO PRODUCT CHART

DATE.	DENHAM. 7 stages. 108,700 sq. ft.	EALING. 5 stages. 24,694 sq. ft.	Br. NATIONAL 4 stages. 43,256 sq. ft.	RIVERSIDE. 2 stages. 12,675 sq. ft.	NETTLEFOLD. 2 stages. 13,076 sq. ft.
MAY, 1945	"Men of Two Worlds"—Two Cities "Carnival"—Two Cities "Brief Encounter"—Two Cities	"Here Comes the Sun"—Baxter	"Query"—Br. Nat. "Echo Murders"—Br. Nat.	Closed	Closed
JUNE, 1945	"Men of Two Worlds"—Two Cities "Carnival"—Two Cities "Brief Encounter"—Two Cities	"Pink String and Sealing Wax"—Ealing	"Query"—Br. Nat. "Loyal Heart"—Br. Nat. "Anguish"—Br. Nat.	Closed	Closed
JULY, 1945	"Men of Two Worlds"—Two Cities "Carnival"—Two Cities "Brief Encounter"—Two Cities "Remember the Unicorn"—Columbia	"Pink String and Sealing Wax"—Ealing	"Loyal Heart"—Br. Nat. "Anguish"—Br. Nat.	Closed	Closed
AUGUST, 1945	"Men of Two Worlds"—Two Cities "Carnival"—Two Cities "Remember the Unicorn"—Columbia	"Pink String and Sealing Wax"—Ealing "Captive Heart"—Ealing	"Trojan Brothers"—Br. Nat.	Closed	Closed
SEPTEMBER, 1945	"I See a Dark Stranger"—Individual "A Matter of Life and Death"—Archers	"Pink String and Sealing Wax"—Ealing "Captive Heart"—Ealing	"Lisbon Story"—Br. Nat.	"Honeymoon Hotel"—Butcher	Closed
OCTOBER, 1945	"I See a Dark Stranger"—Individual "A Matter of Life and Death"—Archers	"Pink String and Sealing Wax"—Ealing "Captive Heart"—Ealing	"Lisbon Story"—Br. Nat.	"Honeymoon Hotel"—Butcher	Closed
NOVEMBER, 1945	"I See a Dark Stranger"—Individual "A Matter of Life and Death"—Archers "Gaiety George"—King	"Captive Heart"—Ealing	"Lisbon Story"—Br. Nat.	"Honeymoon Hotel"—Butcher	"I'll Turn to You"—Butcher
DECEMBER, 1945	"A Matter of Life and Death"—Archers "Gaiety George"—King "Great Expectations"—Cineguild	"Bedelia"—Corfield	"Meet the Navy"—Br. Nat.	"Girl in a Million"—Box	"I'll Turn to You"—Butcher
JANUARY, 1946	"Great Expectations"—Cineguild. "Top Secret"—Two Cities	"Bedelia"—Corfield.	"Appointment with Crime"—Br. Nat.	"Girl in a Million"—Box.	"I'll Turn to You"—Butcher
FEBRUARY, 1946	"Top Secret"—Two Cities "Great Expectations"—Cineguild	"Bedelia"—Corfield	"Appointment with Crime"—Br. Nat.	"Girl in a Million"—Box	Mary Field Productions
MARCH, 1946	"Top Secret"—Two Cities "Great Expectations"—Cineguild	"Bedelia"—Corfield	"Laughing Lady"—Br.Nat.	"Girl in a Million"—Box	Mary Field Productions
APRIL, 1946	"Top Secret"—Two Cities "Great Expectations"—Cineguild "Hungry Hill"—Two Cities	"Hue and Cry"—Ealing	"Laughing Lady"—Br.Nat.	"Daybreak"—Box	"Send for Paul Temple"—Butcher
MAY, 1946	"Hungry Hill"—Two Cities "Odd Man Out"—Two Cities	"Hue and Cry"—Ealing "Nicholas Nickleby"—Ealing	"Spring Song"—Br. Nat.	"Daybreak"—Box	"Crowthers of Bankdam"—Holbein
JUNE, 1946	"Hungry Hill"—Two Cities "Odd Man Out"—Two Cities	"Hue and Cry"—Ealing "Nicholas Nickleby"—Ealing	"Spring Song"—Br. Nat.	"Daybreak"—Box	"Crowthers of Bankdam"—Holbein
JULY, 1946	"Hungry Hill"—Two Cities "Odd Man Out"—Two Cities "Meet Me at Dawn"—Hellman	"Nicholas Nickleby"—Ealing "The Loves of Joanna Godden"—Ealing	"Woman to Woman"—Br. Nat.	Nothing	"Crowthers of Bankdam"—Holbein
AUGUST, 1946	"Hungry Hill"—Two Cities "Meet Me at Dawn"—Hellman "So Well Remembered"—RKO-Rank	"The Loves of Joanna Godden"—Ealing	"Woman to Woman"—Br. Nat.	"Upturned Glass"—Box	"Crowthers of Bankdam"—Holbein
Average number of films completed during 16 months	**11**	**6**	**11**	**3**	**4 (Open 10 months)**

Month-by-Month Guide Adapted from The "Kine." Call Board

PINEWOOD. 5 stages. 72,490 sq. ft.	ISLINGTON. 2 stages. 10,212 sq. ft.	SHEPHERD'S BUSH. 6 stages. 30,785 sq. ft.	SOUND CITY. 6 stages. 53,300 sq. ft.	WELWYN. 3 stages. 15,368 sq. ft.	DATE.
Closed	"Beware of Pity"—Two Cities	"Wicked Lady"—Gainsb.	Closed	"Night Boat to Dublin"—Ass. Br.	MAY, 1945
Closed	"Beware of Pity"—Two Cities	"Wicked Lady"—Gainsb.	Closed	"Night Boat to Dublin"—Ass. Br.	JUNE, 1945
Closed	"Beware of Pity"—Two Cities	"Caravan"—Gainsb.	Closed	"Night Boat to Dublin"—Ass. Br.	JULY, 1945
Closed	"Beware of Pity"—Two Cities	"Caravan"—Gainsb.	Closed	"Quiet Week-end"—Ass. Br.	AUGUST, 1945
"Beware of Pity"—Two Cities	"Remember the Unicorn"—Columbia	"Caravan"—Gainsb.	"London Town"—Ruggles	"Quiet Week-end"—Ass. Br.	SEPTEMBER, 1945
"Beware of Pity"—Two Cities	"Remember the Unicorn"—Columbia	"Caravan"—Gainsb.	"London Town"—Ruggles	"Quiet Week-end"—Ass. Br.	OCTOBER, 1945
Closed	Nothing	"Caravan"—Gainsb. "Magic Bow"—Gainsb.	"London Town"—Ruggles	"Wanted for Murder"—Hellman	NOVEMBER, 1945
Closed	Nothing	"Magic Bow"—Gainsb.	"London Town"—Ruggles	"Wanted for Murder"—Hellman	DECEMBER, 1945
Closed	"Christmas Week-end"—Columbia	"Magic Bow"—Gainsb.	"London Town"—Ruggles	"Wanted for Murder"—Hellman	JANUARY, 1946
"Green for Danger"—Individual	"Christmas Week-end"—Columbia	"Root of All Evil"—Gainsb.	"London Town"—Ruggles	Nothing	FEBRUARY, 1946
"Green for Danger"—Individual	"Christmas Week-end"—Columbia	"Root of All Evil"—Gainsb.	"London Town"—Ruggles	Nothing	MARCH, 1946
"Green for Danger"—Individual	"Odd Man Out"—Two Cities	"Root of All Evil"—Gainsb.	"London Town"—Ruggles	"Piccadilly Incident"—Wilcox	APRIL, 1946
"Green for Danger"—Individual "Black Narcissus"—Archers	Mary Field Productions	"Root of All Evil"—Gainsb. "Man Within"—Box	"London Town"—Ruggles	"Piccadilly Incident"—Wilcox	MAY, 1946
"Green for Danger"—Individual "Black Narcissus"—Archers	Mary Field Productions	"Man Within"—Box	"London Town"—Ruggles	"Piccadilly Incident"—Wilcox	JUNE, 1946
"Green for Danger"—Individual "Black Narcissus"—Archers	Mary Field Productions	"Man Within"—Box "The Brothers"—Box	Nothing	"Temptation Harbour"—Ass. Br.	JULY, 1946
"Black Narcissus"—Archers "Take My Life"—Cineguild	Mary Field Productions	"Man Within"—Box "The Brothers"—Box	"While the Sun Shines"—International	"Temptation Harbour"—Ass. Br.	AUGUST, 1946
2 (open 8 months)	4	6	1 (open 12 months)	4	TOTAL = 52

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REHABILITATION SURVEY—Continued

from the main film stages by a private roadway will incorporate :

The scoring theatre and monitor room suite, especially designed and treated internally to ensure the recording of perfect sound, will provide facilities for an orchestra of 70 or 80 players, together with the required chorus and solo-artist chambers, monitor room and other accessories.

The recording theatre and projection room suite, designed and equipped on the most up-to-date lines, should provide the highest efficiency required in modern production.

This wing will also include echo chambers, preview theatres for staff, dolly store, sound workshop, disc and camera rooms, and a scenic artists' studio.

For Office Staff

(c) ADMINISTRATION BLOCK is to be 300 ft. in length along the frontage to Shenley Road and, having private draw-in for cars, will incorporate these features :

The ground floor will be the general offices, having two main entrances serving three suites of offices, any of which can be placed at the disposal of a renting company hiring studio space.

The third floor will house the balance of general offices, together with the large preview theatre to accommodate 400 people, suitable for private trade shows, and equipped and furnished in the most up-to-date manner.

(d) OUTBUILDINGS are to include :

Block No. 1 : Scenic artist department, joiners' shop, plasterers' shop, paint shop, engineering, plumbing and tinsmiths' shops, scenic dock and rostrum store, property and store rooms.

Block No. 2 : Film developing and printing laboratories, film drying and cutting rooms, film vaults—24 in number—also repair and workshops.

Block No. 3 : Spacious canteens, complete with rest rooms and lock-up accommodation for cars.

Block No. 4 : Boiler house and fuel store.

Block No. 5 : Electric power and sub-station.

Block No. 6 : Saw mill for receiving and dealing with timber in bulk.

The studio has a long term policy which includes the putting up of four additional film stages located on the land behind the scoring and re-recording theatres. The stages, incorporating four-storey dressing-room blocks, will be similar in all essentials to the stages now being modernised.

One isolated film stage with dressing block and other necessary accessories, including an administrative block of offices for letting to outside agencies on short-term leases or for the making of educational or instructional films, is also contemplated.

The present laboratories are to be rebuilt, increased to two storeys in height, to accommodate the latest developing and printing equipment, including facilities for processing colour films.

Striking Progress

The most striking progress of rehabilitation in our studios has taken place in the last three months at Teddington. I reviewed the Warner plans for rebuilding its badly "blitzed" studio in the June supplement, at which time the foundations for the main stage were being started.

Now, the main stage, surrounded as it is by dressing-rooms, recording bays and other departments, is nearly complete. A few days ago I saw the final touches being put to the roof, as the gang of men neared the half-way mark in the job of making it sound-proof.

It certainly looks as though the schedule for the opening in January will be kept.

But for most of the studios this period is one of waiting and hoping. Many of our leading producers have plans for putting up new buildings to help future production, but all this will have to wait until the more urgent need of building homes is complete.

Nevertheless, a lot of useful clearing up is going ahead. Leading studios, such as Denham and Pinewood, have made a number of smaller improvements. Denham has extended its canteen facilities and by November will have changed its power-house from coal to oil consumption. New lights have been ordered from Mole Richardson for both studios —100 150s, 100 Duarcs : and 70 120s have been converted to 150s. This lighting gear will provide a supply to service five productions in both studios with ease.

Recording Improvements

D. and P. will have a delivery of eight of the Newall cameras as soon as they are off the production line and new editing gear, velocitators (supplied by the Edmonton Tool Co.) and a considerable amount of recording apparatus, which is being put in this month.

You can read about the way D. and P. has tackled its recording problems in a detailed article by sound supervisor Cyril Crowhurst on another page of to-day's Studio Supplement.

Cyril Crowhurst describes the conversion of a Denham sound stage into a recording theatre. He has also been responsible for improving the dubbing facilities at Pinewood, where, a few months ago, a new Western Electric film recorder was installed. Pinewood now has a dubbing console, controlled by three mixers, which can accommodate 12 tracks. There are eight new re-recording machines of the R.A. 1251 B type—100 mm. or 200 mm. push-pull in addition to a normal track. There is a 1231 recorder. The new gear, by the way, came to this country before Western Electric installed it in any Hollywood studio, which I think was a pleasant gesture.

Most of the re-recording gear at Denham dates back to 1938 and some to 1934, but this will soon be brought up to date.

Denham is also putting up a Box girder bridge across the river to save time and trouble in shifting material to the lot on the other side, which now has to be done by a detour along the main road. The bridge was purchased from the Ministry of Supply.

Pinewood Plans

When building problems ease up, Denham's new office wing will be built where are now the ashes left over from the "blitz" days. This wing has been designed by A. F. B. Anderson of the London firm, Robert Atkinson.

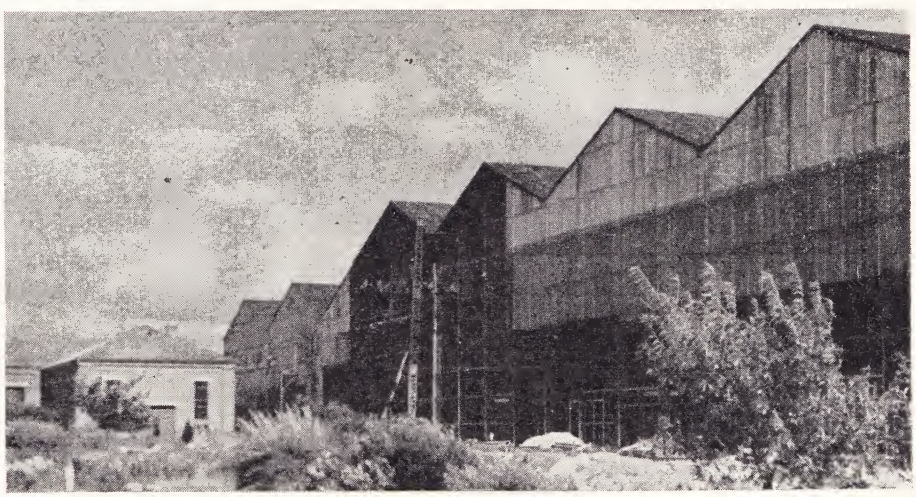
Plans, of course, will be amended from time to time until the actual building is ready to start. There is always room for some improvement.

Norman Walker, general manager of D. and

Continued on page xi

Joe Grossman, A.B.P.C. studio manager in his office, before this was pulled down to make room for the extended stages. Pictures on the wall : cartoon of Max Milder, and Jackie Coogan in "The Kid", given by Coogan to Grossman in 1925

Sound proofing starts on the new stage at Teddington while the roof is being completed at the other end



General view of the beginning of demolition work on the old stages at the A.B.P.C. studios. This side is to be extended some 30 ft. towards the road

Ilford Limited are now able to announce the first welcome news of an outstanding post-war product—Ilford Fine Grain Release Positive Cine Film. Here, at least, is an end of frustration and apology about supply restrictions; this high-quality product of the Ilford six-fold manufacturing organisation can be supplied from stock.

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REHABILITATION SURVEY—Continued

P., was telling me that among the new plans for Pinewood will be the building of a major recording theatre for both studios and considerable improvement in the art department and scenery docks.

Hangars Acquired

Nettlefold, which suffered little during the war compared with some studios, is now launching on a pretty extensive expansion project. W. H. Norris, studio manager, tells me that the organisation is more or less an experimental station. The studio is backed by considerable prestige, being one of the longest established in the country and the first to make use of an R.C.A. recording channel over here.

The two hangars which were purchased from the Ministry of Aircraft Production are now in use. One is the new carpenters' shop, the other in the process of conversion into a sound stage. This will be Nettlefold's third stage, and when sound-proofed and the roof raised by some 10 ft. will measure 25 ft. by 62 ft. by 30 ft. high. The metal walls are to be reinforced with breeze block and sound insulation, and a 12-in. sill will be built to make the floor suitable for flooding.

A back-projection booth is being built at one end of the stage, and an ordinary projection box provided near the roof of the other end, so that the stage can be used as a studio dubbing theatre. R.C.A. engineers are already busy planning the sound layout.

Staff Welfare Plan

Nettlefold intends to make a number of structural alterations to its present administrative block which will allow more room for artists, make-up and production departments. Already there has been a general paint-up and the sound departments and electrical shops have been moved to provide more wardrobe facilities.

The new shop for the sound engineers and electricians is to be put up between the two hangars on the lot.

This studio, which has a good reputation among technicians and constructional personnel alike, has put a new plan into operation for staff welfare. A clinic has been opened, run by a qualified nurse, who dresses all the cuts and bruises and keeps in contact with any staff member when he or she is away on sick leave.

One of the research jobs which Nettlefold is doing is on a new type of high-pressure mercury arc, which is being designed by Dr. Bourne, of B.T.H. This new arc, Norris tells me, is giving excellent results with black and white photography and has yet to be adapted for use with Technicolor.

New Arc on Trial

Its design is simple. Two electrodes are contained in a quartz envelope and this mechanism is attached to a rectifier. The H.P. mercury arc runs off 5 kw. and takes about 4½ minutes to start up. It is noiseless and takes about eight minutes to cool down to below vaporising temperature, but heating mechanism is being designed which will prevent this time lag which could, of course, be a considerable hold up to work on the floor.

The lamp itself is easily adaptable. At the moment the main problem is to balance its colour-temperature to Technicolor. The inclusion of cadmium with the mercury does a lot to balance the excess blue light.

The main drawback at present appears to be the size of the resistance which has to accompany each lamp. The starting mechanism plug is connected to this resistance gear.

Basil Emmett, lighting cameraman on "The Crowthers of Bankdam," has been using one or two prototypes of this light and seems favourably impressed with their possibilities.

The high-pressure mercury lamp will run for 400 hours, replacement costing about £20. The whole gear would cost about £100. A rough estimate shows that it costs at least £100 to keep a carbon arc supplied with carbons for this time. The actual current used by the mercury light is about half that consumed by the average arc.

Nettlefold, I believe, also has plans to go ahead and experiment with the use of radio transmission in film production, but this will be something to be tackled later in the year.

The small studio at Southall, now controlled by Mark Rubens' company, Cromwell Studios, will be in production within a matter of days. It is being put in order by Jimmy Carter.

The studio's short-term policy is to be in production with its 125 ft. by 60 ft. stage, serviced by a compact unit which has been developed during the last two or three months.

But, looking to the future, the company intends to put up an additional stage, which will be 185 ft. by 85 ft. by 35 ft. (height). This will be built—when the Government gives the word "Go"—on an adjacent piece of land which was purchased by the company six months ago. This land covers 52,500 square ft., bringing the total lot up to 117,750 sq. ft. Cromwell Studios was acquired from its previous owner, Metropolitan Films, as soon as Fairey Aviation quit the premises earlier this year.

M-G-M Studio building activity at Elstree. Crane lifts materials to men in the stage roof, which is being raised 10 ft.

Latest Type Equipment

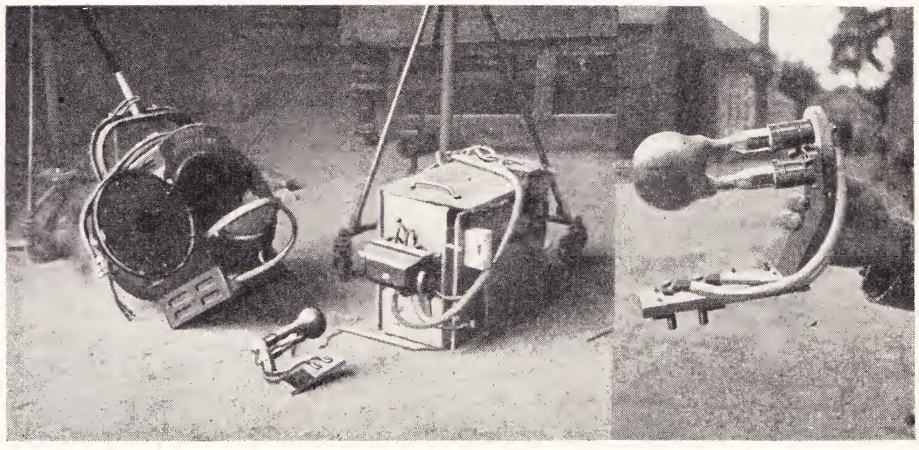
The new lot can be cleared easily for building work, the only thing standing on it being a dilapidated carpenters' shed.

New equipment is at present being installed, the major part of the rebuilding programme being done by Bastibels, Mayfair. R.C.A. is installing a new sound channel, while Crompton Parkinson designed the electrical layout, most of which was put in by G. E. Taylor, of Wimbledon.

I saw some of the rehabilitation work for myself when I visited the studio a few weeks ago. The service wing, now in operation, was in the final stages of completion.

The carpenters' shop is well equipped for a small studio—a good point as the company has plans for an additional stage. Most of the machinery here, I noticed, was manufactured by Sagar. Some of it was taken over

Continued on page xiii



The complete high pressure mercury light unit designed by B.T.H. which is on trial at Nettlefold. The picture on the right shows only the mercury envelope, which is made of quartz, and the electrodes

BB

NEW

G.E.C.

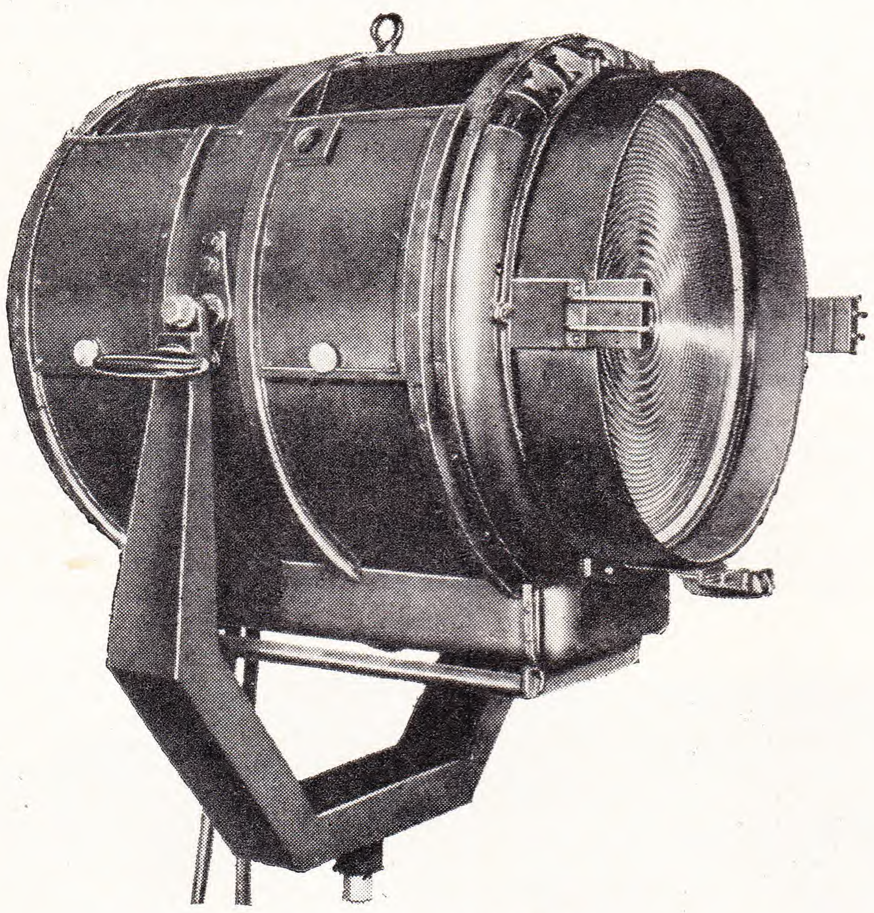
STUDIO LIGHTING DEVELOPMENTS

MEAN

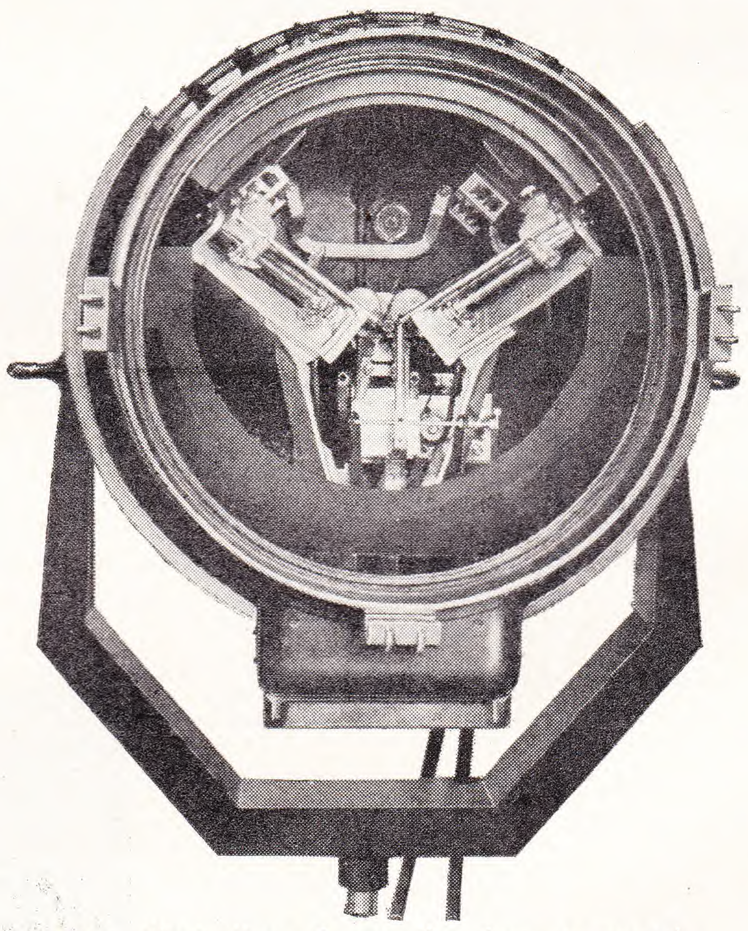
- **COOLER LAMP BURNING**
- **ARC SILENCE**

Recent concentration upon the problems of Studio Lighting Equipment by G.E.C. research has resulted in some outstanding progress in this field. A range of incandescent spotlights has been developed incorporating a new cooling technique which so reduces temperature that the operator can safely handle the lamphouse even when it is on circuit, and with the reduction of temperature, lamp performance is improved.

The 150 amp. double negative arc (as illustrated) is another outstanding development. The arc flame being split, results in much quieter operation, and with the silent block mounting of the motor, the complete unit is very quiet.



Complete Arc lamp ready for use.



This illustration shows the lens removed to give a clear view of the assembling of the positive and double negative carbon.

The range includes 5kW., 2kW., and 500-watt incandescent studio spotlights—3-lamp, 2-lamp and single light broadsides, and a 150-amp. double negative arc.

Full particulars obtainable from the Exterior Lighting Department of:—

THE GENERAL ELECTRIC CO. LTD.

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REHABILITATION SURVEY—Continued

from the previous owner of this part of the new lot.

The company's timber ration, by the way, is 20 standards per six months.

The electrical supply has been improved, and the ingoing current from the North Met. now passes through a Mather and Platt converter, 6-phase, 50 cycles, 400 kva, 1,000-1,600 amps. The British Electrical Transformer (440 kva, 50 cycles) completes the power unit.

The studio, of course, is having its problems, like most of the major companies, in getting adequate supplies of new equipment. A large order has been placed with G.E.C. and Mole Richardson for lighting gear, some of which is now trickling through. G.E.C. is to supply 50 2ks., 10 5ks., and 8 500s., 12 broads and 2 150 arcs. The order from Mole Richardson stands something like this: 25 2ks., 5 5ks., 4 500s, 8 rifle-spots, 12, 240 sky-pans, 12 broads, 2 170-arcs, 3 90-type and 4 65-type.

An Air of Freshness

The studio has a fresh and clean smell about it. New paint is everywhere. There are many modern improvements. The dressing-room and make-up room wing, running down the side of the stage, has been veritably rebuilt. This area has been re-partitioned off to provide some 15 medium-size rooms branching from one central corridor. Here are well-equipped wardrobe, make-up, electrical engineers' and artists' rooms.

But administrative space is still insufficient, so much so that cutting rooms are not provided in the studio at the moment, but facilities are available at Twickenham for producers who make use of the Cromwell Studios.

By the way, camera gear is conspicuous by its absence, but I believe the company is hoping to receive an early delivery of a Mitchell camera.

To date, there are 75 people on the pay-roll, a figure which will rise to some 150 (or more) when the studio starts up production.

These are the heads of studio departments: I. R. King, assistant to Jimmie Carter, who between them have designed the new layout for the studio; and M. Lyons, master carpenter; A. Hill, chief electrician; T. Money (known to those technicians who worked at Twickenham before the war), property master; John Searle, master painter; and Ted Thomas, master plasterer.

The Torquay Studio

I shall be interested to see the first production on the floor. There is no reason why Cromwell Studios should not turn out first-class products as soon as it has its second stage working, especially when one remembers that Sydney Box made his record-breaking "Seventh Veil" at Riverside, which studio's stages are smaller than the proposed new plant at Southall.

That new studio opened by F. W. Baker's company at Torquay will start production next month. A unit left for location last week for a film called "The Express," which is to be made by another company with which F. W. Baker is associated.

Baker came to see me a few days ago and described the Watcombe Hall studios, which seem to be a satisfactory set-up. The main stage (106 ft. by 60 ft. by 30 ft. high) is being sound-proofed, and building will start soon on a number of service buildings in addition to a few which are already up.

The electrical supply comes from Torquay—100 kva.—which goes through a mobile generating set of 100 kw., 110 volts D.C. The power-house has two Ruston Hornsby diesel generating sets, 200 kw., 110 volts.

The company is to have Mole Richardson and G.E.C. lighting gear and a Mitchell N.C. and Newall N.C. cameras. RCA is putting in a P.M. 38E1 recording channel, and four cutting rooms have been equipped with Acmiola editors.

The completed plant will incorporate another stage yet to be built (120 ft. by 80 ft. by 35 ft. high), and two theatres and additional wardrobe and make-up facilities. There is a 45-acre lot adjacent to the studio, which itself backs down to the seashore, and this land is likely to be acquired by the studio for future expansion.

For the Independent

News that producer Sydney Box would hold no official position with Alliance Films, the company which recently acquired Riverside and Twickenham studios from Jack Buchanan, came as a surprise to many people in the production industry. Box has for some time been associated with production work at Hammersmith.

The studios, I understand, are likely to be let out to independent producers. Meanwhile, as Jimmy Carter and his associates supervise a number of minor repairs to Riverside, general rehabilitation is going ahead at Twickenham, where there is ample space for new stages to be put up at some future date.

Sound City, acquired this year by Sir Alexander Korda, is in good production order; but plans are, of course, being made by the company's architect, Guy Morgan, for the stage which was demolished during the "blitz." I understand that it will be some time before the Government is expected to give its sanction to new building work at this Shepperton plant.

A City Project

The Windsor Studios—located in the City of London—will be completed early next month.

Comprising three sound stages, the studios are the project of Cine Industrial Productions, a company formed in February by T. P. Matthews and R. E. Pilgrim, two ex-members of an R.A.F. film unit, in association with F. J. Ridsdale.

Occupying the basement of a block of buildings in 24, Cursitor Street, London, E.C.4, the studios are suitable for production of documentaries, featurettes, instructional or industrial films, and will be available to producers on a rental basis.

No. 1 stage, the largest of the three stages, measures 56 ft. by 25 ft., with an annexe 14 ft. by 14 ft.

No. 2 stage is 28 ft. by 27 ft., and is also equipped as a viewing theatre. Later, it is to be equipped for dubbing.

No. 3 stage, 27 ft. by 20 ft., is suitable for small flat sets, still work, or for artists' tests.

Walls and ceilings of all three stages have been treated with 2½-in. slagwool soundproofing material, and all doors are of the interleaving type, 7 in. thick, and packed with slagwool. The floors have been constructed to minimise echo. Asphalte provides a base for the joists, which are packed with a layer of felt and covered by grooved and tongued floor boards.

Power Supply

The three-phase electricity supply input, a total of 11,000 volts, is transformed to give an output of 1,500 amps. at 220 volts.

This is fed to a terminal board, on No. 1 stage, which provides six channels, each of 250 amps, 220 volts, and separately switched and fused. "Spiders" with 60-ft. cables are provided for floor lighting. There is a separate 220-volt, 200-amps. D.C. supply for H.I. arcs.

Fluorescent ceiling lights are installed and provide an economical form of normal house lighting.

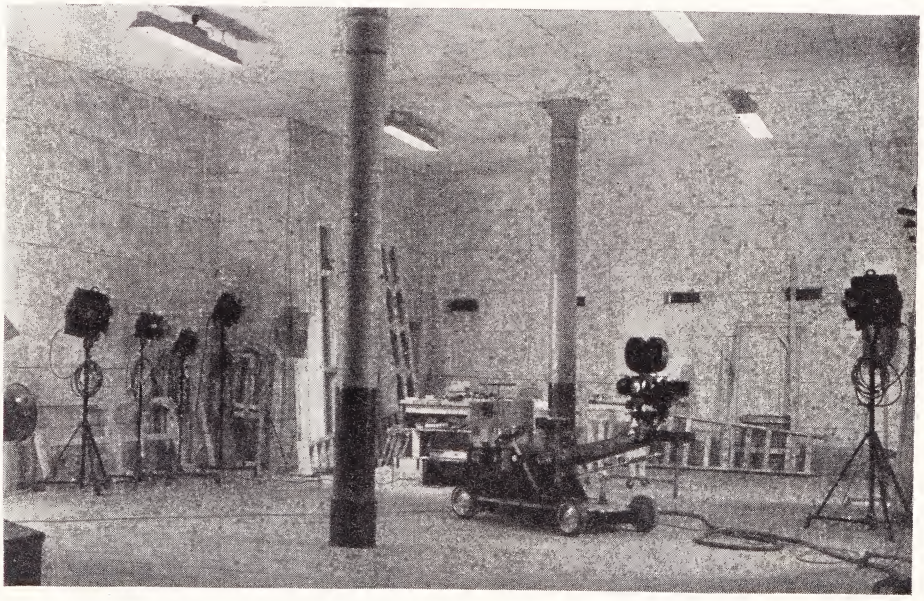
Technical equipment available includes a Mitchell N.C. type camera, a Vinten Normandie type camera, Vinten dolly, 24 2-kw. spots, two 5-kw. spots, six 500-watt "spots," six "broads" supplied by Multiple H.D. Industries, and 12 Mole Richardson "spots" of various sizes.

The viewing theatre in No. 2 stage is equipped with RCA sound-reproducing system and Simplex projectors.

Adjacent to the main stage are a carpenters' shop, camera and sound-recording rooms, and dressing-room accommodation.

Summing Up

Well, that's the studio position to-day. There has been good progress since June of this year; but a lot remains to be done. Month-by-month new stages are getting nearer production—and every step is a help towards the completion of the vast reconstruction plan, the first stage of the British production industry's rebirth, which producers have set themselves to complete by the end of 1948.



A view of Stage 1, the largest of three stages suitable for documentary and featurette production, at Cine Industrial's Windsor Studios in the City of London. Among the technical equipment available is the Vinten dolly and Mitchell N.C. type camera seen in the background

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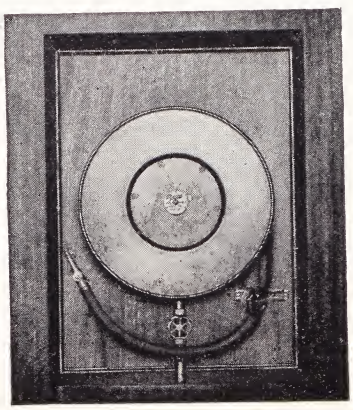
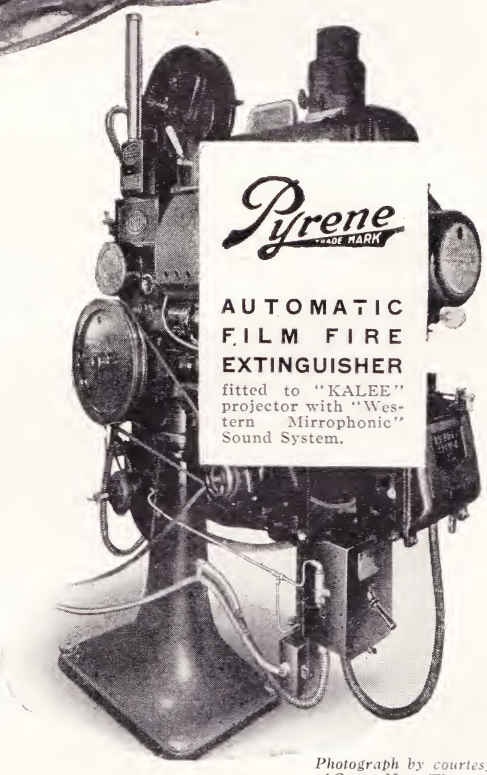
The "Conquest" Soda Acid Extinguisher.

The "Phomene" Foam Type Extinguisher.

(Right) The "Pyrene" Everyway Hose Reel.

(Left) The Carbon Dioxide (CO_2) Extinguisher.





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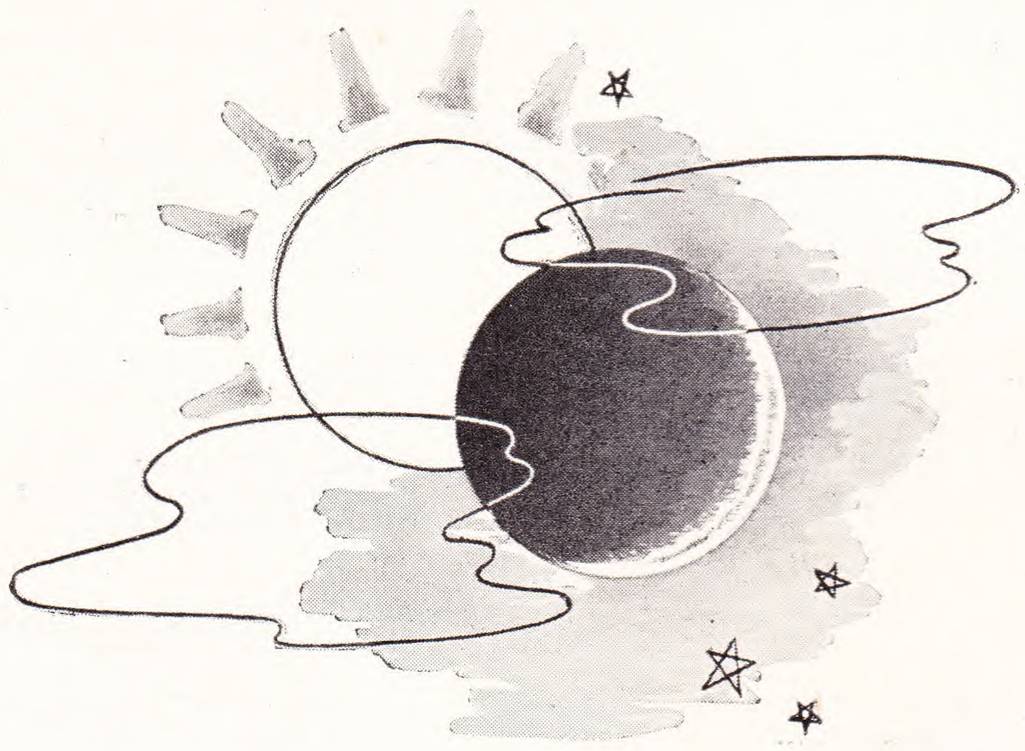
STUDIO-BY-STUDIO PRODUCT AND PLANNING DIARY

NAME OF STUDIO.	NO. OF STAGES.	SIZE OF STAGES.	SOME OF THE STUDIO'S FORTHCOMING PRODUCTIONS.		POST-WAR RECONSTRUCTION.
BRITISH NATIONAL	4	C = 80 ft. × 112 ft. = 8,960 sq. ft. ... D = 80 ft. × 112 ft. = 8,960 sq. ft. ... B = 36 ft. × 61 ft. = 2,196 sq. ft. ... E = 80 ft. × 168 ft. = 13,440 sq. ft. ... **Total : 43,256 sq. ft.**	October November Early 1947	"Double Alibi" (Br. Nat.) ... ... "The Case of the Three Weird Sisters" (Br. Nat.) "Lost" (Br. Nat.) ... ... "No Nightingales" (Br. Nat.) ... ... "King Henry 8th's Fifth Wife" (Br. Nat.)	The carpenters' assembly shop is being turned into a new sound stage. Some silent work has already been done on the new space. More wardrobe facilities are being provided.
BUSHEY	1	60 ft. × 40 ft. = 2,400 sq. ft.		A series of films featuring Tod Slaughter	Studio was completely re-equipped when it was opened earlier this year.
DENHAM ...	7	(1), (2) & (3) 116 ft. × 76 ft. = 8,750 sq. ft. (4) & (5) 244 ft. × 144 ft. = 27,500 sq. ft. (6) 114 ft. × 114 ft. = 12,750 sq. ft. ... (7) 129 ft. × 114 ft. = 14,700 sq. ft. ... **Total : 108,700 sq. ft.**	October November December 1947	"Uncle Silas" (Two Cities) ... ... "The October Man" (Two Cities) "Secret People" (Two Cities) "The World Our Cradle" (Two Cities) "Treveyan" (Excelsior)	Plans being finalised for new office wing. New bridge put over river to facilitate location work. New recording gear installed. Stage 1 converted to music recording stage.
EALING	5	(1) 52 ft. × 34 ft. = 1,768 sq. ft. ... (2) 126 ft. × 76 ft. = 7,576 sq. ft. ... (3a) 71 ft. × 85 ft. = 5,235 sq. ft. (3b) 71 ft. × 85 ft. = 5,235 sq. ft. (4) 80 ft. × 61 ft. = 4,880 sq. ft. **Total : 24,694 sq. ft.**	October Early 1947	"Frieda" to follow "The Loves of Joanna Godden" (Ealing), starting next month. "Toilers of the Sea" "Saraband for Dead Lovers" "Scott of the Antarctic"	Future plans set for additional floor space, more cutting rooms and office space. Model stage is to be sound-proofed soon.
HIGHBURY ...	2	8,500 sq. ft.		Two Cities research	———
ISLINGTON ...	2	(1) 92 ft. × 63 ft. = 5,796 sq. ft. ... (2) 96 ft. × 46 ft. = 4,416 sq. ft. ... ... **Total : 10,212 sq. ft.**	October	"Holiday Camp" (Gainsborough) ... "Dear Murderer" (Gainsborough)	Studio put in good repair since minor war damage. Production started on new Sydney Box programme this month.
MERTON PARK	2	(1) 72 ft. × 66 ft. = 4,752 sq. ft. ... ... (2) (L-shaped) 42 ft. × 17 ft. with 18 ft. × 17 ft. annexe. **Total : 5,772 sq. ft.**		Sponsored productions by Film Producers' Guild.	———
NETTLEFOLD ...	2	(1) 88 ft. × 52 ft. = 4,576 sq. ft. ... (2) 100 ft. × 85 ft. = 8,500 sq. ft. ... **Total : 13,076 sq. ft.**	October October	Butcher Frank Pardell subject "The Long Shot" (Grand National) ... A new Butcher picture early next year.	Two hangars purchased from M.A.P. have been turned into carpenters' shop and a model and B.P. stage—the latter work now in progress. Experiments in hand on mercury vapour arc and use of radio transmission gear.
PINEWOOD ...	5	(1) 165 ft. × 110 ft. = 18,150 sq. ft. ... (2) 165 ft. × 110 ft. = 18,150 sq. ft. ... (3) 165 ft. × 110 ft. = 18,150 sq. ft. ... (4) 110 ft. × 82 ft. = 9,020 sq. ft. ... (5) 110 ft. × 82 ft. = 9,020 sq. ft. ... **Total : 72,490 sq. ft.**	October November	"Captain Boycott" (Individual) "Blanche Fury" (Cineguild) "London Belongs to Me" (Individual) "Green Days and Blue Days" (Archer)	Extension to power house made. Improvements to start on scenic dock and art department. Future planning includes provision for large recording theatre for both Pinewood and Denham.
RIVERSIDE ...	2	(1) 105 ft. × 75 ft. = 7,875 sq. ft. ... (2) 80 ft. × 60 ft. = 4,800 sq. ft. ... **Total : 12,675 sq. ft.**		No plans announced by Alliance which acquired the studio in September.	———
SHEPHERD'S BUSH	5	(2) 85 ft. × 40 ft. = 3,400 sq. ft. ... ... (3) 115 ft. × 55 ft. = 6,325 sq. ft. ... (4) 120 ft. × 85 ft. = 10,300 sq. ft. ... (5) 85 ft. × 71 ft. = 5,235 sq. ft. ... ... (6) 85 ft. × 65 ft. = 5,525 sq. ft. ... ... **Total : 30,785** sq. ft.	October Early 1947 Late 1947	"Bad Girl" (S. Box) ... ... "Self Made Man" (S. Box) ... ... "The Killer and the Slain" (S. Box) ... "Merry-Go-Round" (Gainsborough) ... "The Merciless Ladies" (Gainsborough) "Forgotten Story" (Gainsborough) "The Reluctant Widow" (Gainsborough) "The Voice Before" (Gainsborough)	Minor clean-up jobs—particularly to the canteen—have been completed so that most of war damage has now been made good.
SOUND CITY ...	6	(1) & (2) 150 ft. × 125 ft. = 18,750 sq. ft. (3) & (4) 100 ft. × 120 ft. = 12,000 sq. ft. (5) 70 ft. × 40 ft. = 2,800 sq. ft. ... ... (6) 100 ft. × 90 ft. = 9,000 sq. ft. **Total : 53,300 sq. ft.**	October Early 1947 Followed by—	"Scarlet and Pure Gold," (H. Wilcox)... "Round the World" (Korda-Welles) "Carmen" (London Films) "Bonnie Prince Charlie" (Black) "A Man About the House" (Black) "Smokey" (London Films)	One stage to be rebuilt. Post-war plans prepared by company's architect Guy Morgan, but not finalised.
WELWYN ...	3	(1) 59 ft. × 39 ft. = 2,301 sq. ft. ... ... (2) 82 ft. × 53 ft. = 5,246 sq. ft. (3) 99 ft. × 79 ft. = 7 821 sq. ft. **Total : 15,368 sq. ft.**	November Early 1947	"My Brother Jonathan" (A.B.P.C.) ... "She Died Young" (A.B.P.C.) "The Master of Ballantrae" (A.B.P.C.)	A.B.P.C. is concentrating on the rebuilding of the Elstree studio. Plans for improving the Welwyn plant may be fixed later.
WORTON HALL	3	**Total : 21,430 sq. ft.**	Early 1947	"Maria Chapdelaine" (Kinsman) ... "A Lady Was to Die" (King)	Studio re-opened in August, having been put in excellent order following Government derequisitioning.

KAY'S



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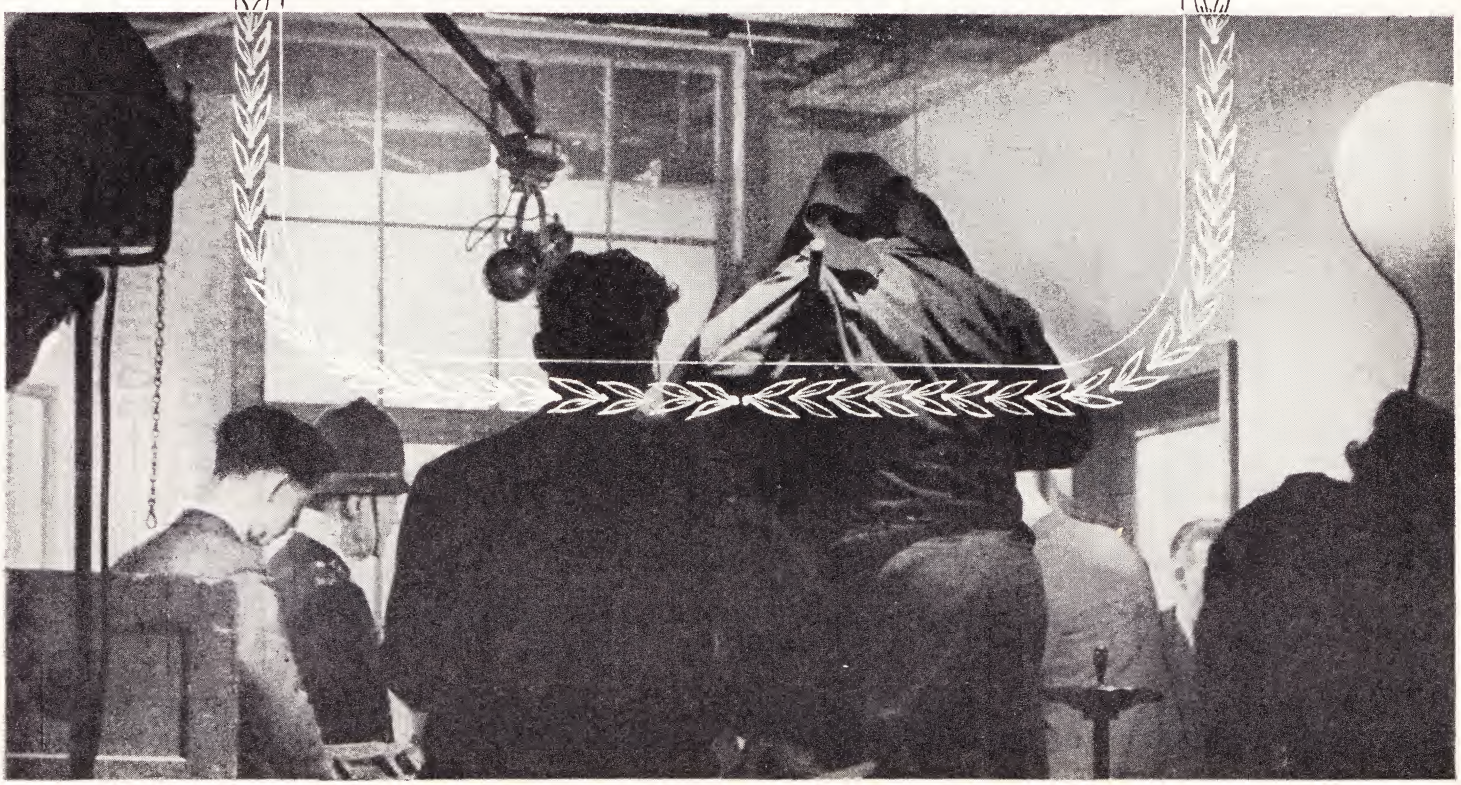
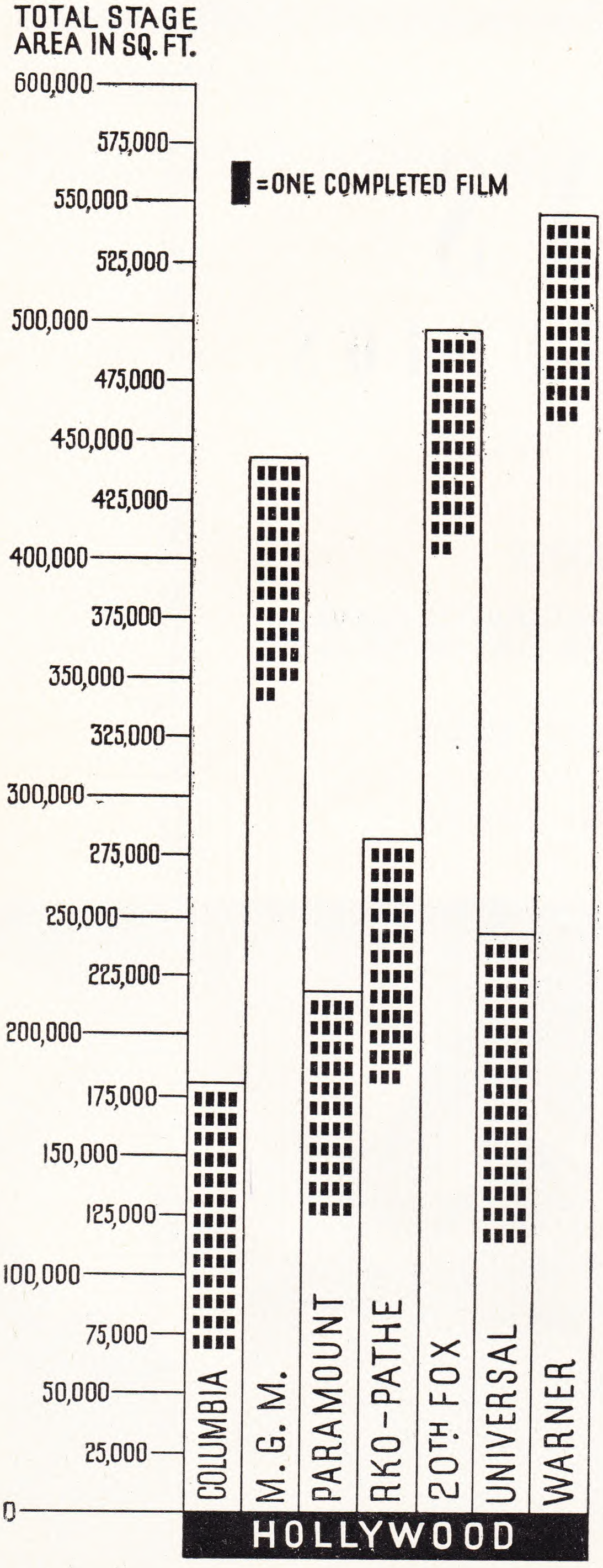


ANNUAL OUTPUT AND SPACE COMPARISON OF BRITISH WITH HOLLYWOOD STUDIOS



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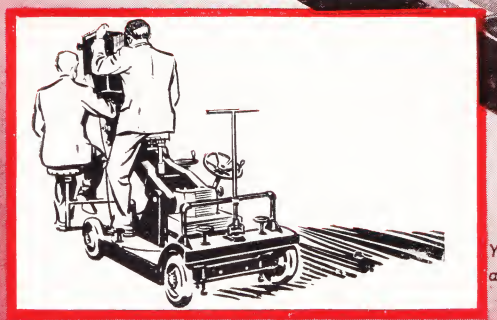

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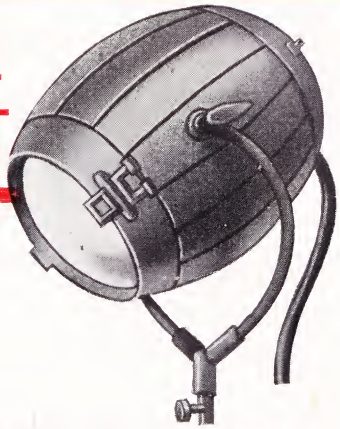

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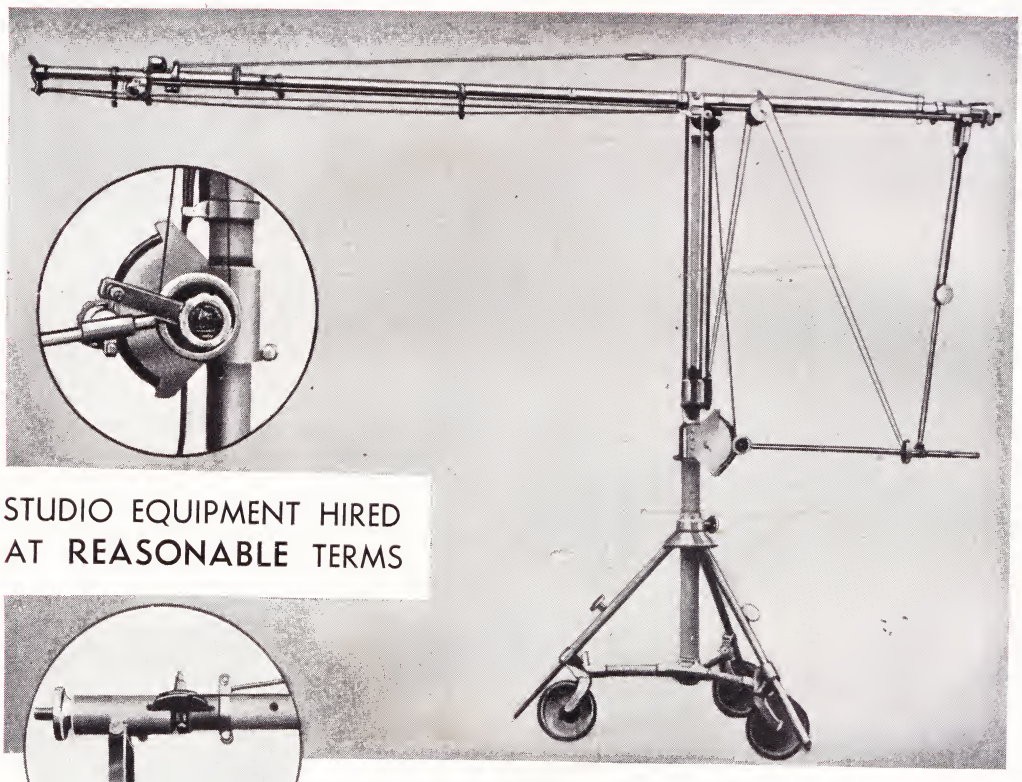

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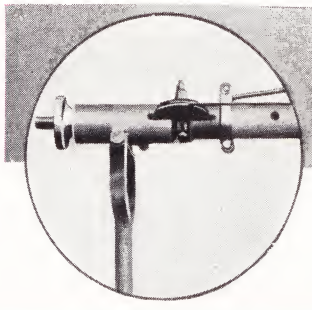

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Company-by-Company Tabulation with Latest Details of Units

THE ARCHERS

Green Days and Blue Days. For Pinewood production under Michael Powell and Emeric Pressburger. Location work started in Brazil. Subject will follow **Black Narcissus,** now in final stages of floor work.

Unit list for Brazilian location:
Director, Derek Twist.
Production manager, John Alderson.
Editor, Brett Porter.
Assistant director, Geoff Lambert.
Second assistant director, Bob Lynn.
Lighting cameraman, Chris Challis.
Operator, Reg Hughes.
Loader, Max Samett.
Stills, Monty Berman.
Continuity, Dorothy Tomson.
Assistant art director, E. E. Scott.
Make-up, Dick Bonner-Moris.
Process assistant, Tom Howe.
Cashier, Eric Houseman.
Camera assistant, Gus Lankford.

ASSOCIATED BRITISH

Temptation Harbour, now being completed at Welwyn, and **While the Sun Shines,** the Sound City subject, will be followed by:

My Brother Jonathan. Adapted from the best-selling novel by Francis Brett Young.

She Died Young. Adapted from the story by Alan Kennington.

The Master of Ballantrae, a film version of the famous classic by Robert Louis Stevenson.

BRITISH NATIONAL

Green Fingers, which John Harlow is directing, with a cast headed by Carol Raye and Robert Beatty, is now well ahead. It will be followed by:

Double Alibi. A story of the circus. Director, Alfred Travers. No casting set.

The Case of the Three Weird Sisters. No cast or unit personnel set.

Lost. No cast or unit set.

No Nightingales. A Technicolor comedy, starring Robert Morley. No unit set.

King Henry the 8th's Fifth Wife. No cast or unit set.

CINEGUILD

Take My Life, finishing at Pinewood, will make way for an Individual subject, then Cineguild will start—late this year—a Joseph Shearing story, **Blanche Fury.** Cast or unit is not yet set, but Valerie Hobson will star.

COLUMBIA BRITISH

The company reports "No plans to date."

EALING

The Loves of Joanna Godden is now in production. It will be followed by **Frieda,** adapted from the West End stage success. No unit details are set.

Films for 1947 will be **Toilers of the Sea,** to be directed by Cavalcanti; a subject from director Basil Dearden, **Saraband for Dead Lovers;** and **Scott of the Antarctic,** which Charles Frend will direct. No unit set.

EXCELSIOR

Marcel Hellman's production, **Meet Me at Dawn,** is now being cut. He will follow with these subjects for 20th-Fox release:

First on the list comes **The Barbarian,** the scenario by Adela Rogers St. John and Richard Fisher, with screen play by John Balderstone and Tay Garnett. This is a story of the Border Wars between England and Scotland in the 15th century.

Treveyan, from an Angela Du Maurier story.

Kiss Me Goodnight is a musical and will probably be made in Technicolor, with story by Maurice Cowan and James Seymour.

The Good Earl. The story is by Richard Fisher and Peter Cresswell, with James Seymour providing the scenario, and deals with the 7th Earl of Shaftesbury.

Fifth on the list is **Sabina** from the novel by Joy Langton.

GAINSBOROUGH

Sydney Box took over control of Gainsborough's production centres at Shepherd's Bush and Islington on August 1.

The Brothers—made at the Bush—is nearly complete.

The current subject scheduled for Shepherd's Bush is **Jassy,** a Gainsborough picture in Technicolor adapted from the novel of the early 19th century by Norah Lofts. Margaret Lockwood co-stars with Pat Roc.

Overlapping with "Jassy" at Shepherd's Bush will be the Sydney Box production, **Bad Girl,** based on a new novel by Arthur Le Bern. Jean Kent is the star.

Islington starts the new Box schedule with a Gainsborough film, **Holiday Camp,** based on a Godfrey Winn story and to be directed by Kenneth Annakin.

Other films for late 1946 and early 1947 are to be:

Self Made Man, an original story by Muriel and Sydney Box, with screenplay by Alan Campbell, starring Stewart Granger.

The Killer and the Slain, a novel by Sir Hugh Walpole, which is intended as a starring vehicle for Eric Portman.

The two are Sydney Box productions.

Gainsborough Pictures will make **Merry-Go-Round,** an original screenplay by Muriel and Sydney Box written for Margaret Lockwood, and **Four Poster,** to be adapted from a play by Jan de Hartog.

The Merciless Ladies and **Forgotten Story,** two new novels by Winston Graham, who will write the scripts from his own books.

Towards the end of 1947 Sydney Box plans to produce **The Reluctant Widow,** the best-selling novel by Georgette Hayer, with Margaret Lockwood in the lead.

The Voice Before, an original story by Simon Harcourt Smith, is also scheduled to be produced before the end of next year.

GEORGE KING

King is making **The Shop at Sly Corner** for British-Lion release at Worton Hall. He will go ahead to make **A Lady Was to Die** before the end of the year. No technical line up is set.

INDIVIDUAL PICTURES

Captain Boycott has started location work. It is due for immediate studio work at Pinewood. This is the technical line up:

Producers, Frank Launder and Sidney Gilliat.
Director, Frank Launder.
Studio, Pinewood.
Original story, Philip Rooney.
Screen play, Frank Launder and Wolfgang Wilhelm.
Renting house, not yet known.
Delivery date, not yet known.
Stars (title rôle not yet cast), Stewart Granger, Kathleen Ryan.
Supporting cast, not yet cast.

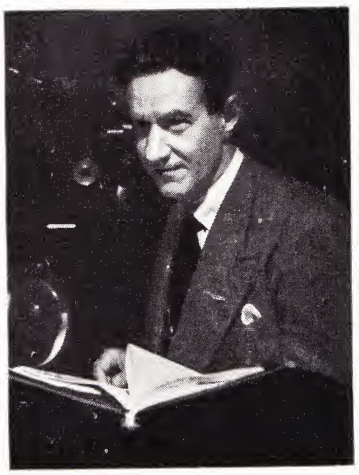
Technicians, M. Smedley-Aston (production manager), Leslie Gilliat (unit location manager), Thelma Myers (film editor), Percy Hermes (assistant director), Wilkie Cooper (camera lighting), E. Carrick (art director), Chris Noble (second assistant director), Eric Braun (third assistant director), A. Pike (fourth assistant director), Paddy Arnold (continuity), G. McKnight (publicity assistant), Ossie Morris (camera operator), W. Hutchinson (assistant art director), J. Lowin (focus), Sophie Harris (dress supervisor and designer).

A. Perry (clappers), S. Bland (grips), W. Surridge (stand-by carpenter), Jack Woodstock (stand-by painter), F. Alexander (electrician), A. Bradley (electrician), J. Gower (props), E. Underwood (props), H. C. Lucas (stills), and Cynthia Fredericks (production secretary).

The company's next subject—for Spring, 1947—will be **London Belongs to Me.**

Producers, Sidney Gilliat and Frank Launder.
Director, Sidney Gilliat.
Studio, not yet known.
Original story, Norman Collins.
Screen play, Sidney Gilliat.
No other details available to date.

Continued on page xxx



David Macdonald currently directing the Sydney Box production of THE BROTHERS at Shepherd's Bush has a camera-eye view of the set

John Harlow directing Felix Aylmer and Robert Beatty in a scene from British National's GREEN FINGERS

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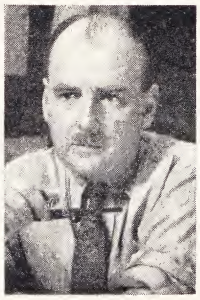

DOCUMENTARIES MUST HAVE WIDER DISTRIBUTION IF THEY ARE TO LIVE

We have delivered the goods, give us more screen space is the theme of this article by Paul Rotha, one of Britain's leading documentary producers, whose latest success is "Land of Promise." What chance does a second feature documentary stand to-day of getting back its production cost, plus a reasonable profit, he asks. None at all, unless the circuits will book it.

by PAUL ROTHA

THE biggest problem facing documentary film makers, now that the war is over, is distribution. It seems odd, perhaps, that in the one branch of the kinema where Britain leads the world without dispute, the one kind of film making in which even the Americans have acknowledged our lead, the films which have gained so much prestige and goodwill for this country overseas—well, distribution and exhibition of these pictures in our own home kinemas is a major difficulty.

It would be only right to think that the nation and its film Industry would be proud of this native success, proud that Canada and Australia and other great countries have taken Britain as their example in the making of factual films.

We Lead the World

Requests come from many countries within the Dominions and in Europe, asking that England should loan some of her senior documentary producers for a period to train technicians and administrators in those countries.

Have such requests ever been made to our entertainment film makers?

In Canada, John Grierson has built up that remarkable organisation the National Film Board, of which Canada is so proud. In Australia, an English documentary producer, Stanley Hawes, is in charge of production. In India, first Alex Shaw and then Jack Holmes were loaned from England to get native documentary production on its feet.

An English documentary man heads UNESCO's Film Department.

Some of the best of the Renaissance films in Britain have owed their inspiration and methods to documentary—"The Way Ahead," "Millions Like Us," and "Waterloo Road." Yet, despite all this, there is not a single kinema in the United Kingdom which makes it its business to present the newest and best of the British documentary product.

Reason for Neglect

Note I use the word "business." I do so with purpose. There must be a reason for this neglect of documentary films by the distribution and exhibition sides of the Industry.

I don't think it can be because these films lack quality; the critics of this and other countries cannot have been consistently wrong for nearly twenty years.

I don't think it can be because a great section of the weekly kinema-going public would howl their hatred of documentaries if they were included in normal programmes.

If that were to be the case, they would have done so during the war when some notable documentaries did get theatre showing; nor should we get so many requests from the public as to where our films can be seen.

No, I think the answer is that documentary films are not "business" in the accepted meaning of the word. Note that there is not one single company producing and distributing documentary films on its own account.

The production costs of short documentary films has, in almost every case, been commissioned for the simple reason that the revenue obtainable from exhibitors via the renter does not add up to the production cost of a good quality film. Readers of KINE. are all aware of how short films of all kinds are booked, and how the prices paid (where they are paid) are negligible. A short film has got to cost very little indeed (a few hundred pounds at the most) if its maker is to show a profit on his outlay.

Documentary films, in the real meaning of the word, cannot be made at such a low cost.

Until exhibitors realise that the part of their programme not occupied by features and the newsreel is of importance to their audience, until they pay a better rental for short films of a good type, British documentary makers must continue to rely on commissioned production either by the Government, or otherwise.

The major U.S. companies nearly all either produce or acquire short films and distribute them together with their feature product. No major British production company at the moment produces short films for distribution with its features, although we have been hearing for a very long time of Arthur Rank's proposed rival to "March of Time."

[*The first issue of this new Rank series was Trade shown last week, after Paul Rotha had written this article.*—ED.]

Korda Talk

Before the war Korda talked about producing good quality documentaries for distribution with his features, and, indeed, actually made a start with Huxley's "Private Life of the Gannets": but the scheme got no further than some scripts which were to have been written by Winston Churchill.

But I do not want to perpetuate the common mistake of identifying documentary only with short films. That documentaries can reach feature length up to, say, 7,000 ft., if the subject is rich enough, and still hold their appeal has been well proved by the famous war pictures "Desert Victory," "Tunisian Victory," "Burma Victory," "Western Approaches," "The True Glory," "Target for To-night" and others.

To reach this length, however, means "production value" and an increase in production cost.

If the documentary film is going into the second feature market without commissioning, to displace, one hopes, some of the imported second features and all the "quickie featurettes," then some adequate distribution must be offered.

A 100-1 Chance

What chance does a second feature documentary stand to-day of getting back its production cost plus a reasonable profit?

None at all, unless it is booked by the circuits.

And yet the second feature offers our production industry everything on which to bet; the chance to experiment, to train new technicians and actors, to explore new techniques and subject-matter. If the screen-space now occupied by imported second features and cheaply-made "quickie featurettes" was made available to the documentary producers and a reasonable guarantee of return was forthcoming so that production costs could be geared accordingly, then we should see an advance in film making from which both the public and the Industry would gain immeasurably.

PRODUCTION PRESTIGE

Shoddy "Features" a Menace —But so is Studio Waste

by P. L. MANNOCK

ONE result of the delayed resumption of studio floor space might have been foreseen—the bringing into being of hole-and-corner pictures of a standard calculated to bring British films into the same kind of disrepute that existed 15 to 20 years ago.

It was inevitable that with studio limitations, showmen's quota demand and the high rentals demanded for good British features, there should come into use previous lacking in the resources needed for modern technique. It was equally inevitable that the law which allows, as showmen's quota, almost anything over 30 minutes' running time, should bring into existence bumped-out travelogues, spun-out "interest" subjects and crude dramas at cheap cost.

The Public's Needs

Far be it from me to over-estimate average audience needs as regards quality. I take leave to doubt, however, whether audiences in general are really content with some of the deplorable material made in this country, now masquerading in the guise of quota second-feature subjects. Their level is such that it ill becomes anyone to complain of the ordinary imported second feature which, however unworthy, has at least some claim to production values.

How is this menace to be met? Even important circuits seem to be booking some of this shoddy stuff, made, in many instances, without a studio, and costing well under £1,000. Naturally, it is not shown to the critics. But it ranks as quota, and fills up programme time very cheaply. It also swells the total official number of British feature pictures made, most misleadingly.

Hobson's Choice

Booking such pictures is, no doubt Hobson's Choice for many showmen who prefer to comply with quota legislation even at the cost of boring and irritating their audiences. Until our output of creditable bona-fide features is considerably stepped up, these showmen will have the perfectly valid excuse that these alleged features are all they can get. But this is not good enough. I was discussing the question last week with a prominent studio chief who feels that the reputation of native product is being discredited.

His suggestion is that these bumped out subjects, many of which are only worth a few minutes' running time at the most, should be treated by the Board of Trade on a new

Continued on page xxvii

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WHAT HOLLYWOOD THINKS OF THE BRITISH STUDIO SET-UP

Three U.S. Technicians Working Here Make this Conversation Piece

WHAT does Hollywood think of the British production industry? This Studio Section is designed to give a detailed survey of our home industry to-day; but some of its weaknesses and how it can best fit into the world picture are not so apparent to those who work in it. So the "Kine.'s" Studio Correspondent, P. G. Baker, sought out a Hollywood producer, a Hollywood director, and a Hollywood actor. He found 35-year-old Adrian Scott—ex-writer and latterly producer of such hits as "Farewell, My Lovely"; 38-year-old Edward Dmytryk, film cutter until 1939, when he took over his first directorial job and subsequently made "Hitler's Children"; and actor Richard Carlson, with rôles in such films as "The Little Foxes" and "The Young in Heart" to his credit. The scene: At the side of Denham's stage 4 during a lull in work on "So Well Remembered." The conversation went like this :—

BAKER: What most impresses you on this, your first experience of work in England?

PRODUCER ADRIAN SCOTT: The extremely high quality of the pictures which your people make—and the skill of those who make them.

BAKER: Yes, but it must be pretty obvious to you that our shooting schedules are invariably much longer than those of Hollywood. Can you give any reasons why this is so?

SCOTT: There are two or three reasons for the hold-ups over here. First, it is because of your system of organisation. In Hollywood, a large studio is in itself a producing group. But in Britain you have a number of independent companies which rent a studio and the various service departments which go with it. There is a certain slowing down effect because the unit's producer does not have a unified control of the whole studio.

Another point, work goes much smoother when everyone from producer to floor hand has worked as a team on production after production. This can't happen when a series of independent producers pass through a studio.

Secondly, there is still shortage of labour in some departments of your studios. I have noticed a shortage of "grips." Another thing, the labour over here is not so experienced as that in Hollywood—after all, it cannot be expected The U.S. has been turning out hundreds of films every year for a much longer time than you have been producing in this country.

Thirdly, much of your equipment is hopelessly cut of date. British technicians cannot help this—and I believe it will only be a matter of time before all your studios are equipped as well as those in Hollywood.

An example of your shortage of gear is this. See those rain machines on the set. We brought the sprinkler-heads over with us from the States. You have nothing like them here. They work absolutely silently and can be adjusted in a matter of seconds to provide three different types of rain

ACTOR RICHARD CARLSON: I agree with what you say—but the present British set-up does have tremendous value, even if at the moment it is a contributory factor to slowing down schedules. Where you have a system of independent companies renting a studio you automatically provide scope for such individualists as the Boulting Brothers to go ahead with their own ideas and put them on the screen.

That's not so with the major Hollywood studios. Our studios are mostly controlled by one or two production heads, and their

Director Edward Dmytryk on the right with film star John Mills

ideas and tastes obviously penetrate to the product that comes out of those studios.

BAKER: So you disagree with the Hollywood major production set-up?

CARLSON: To a certain extent, yes. But if you watch current Hollywood trends you will see that things are rapidly swinging to the British way of things. Producers, directors, artists and technicians are getting together to form independent production units—making a film because they want to make it and not because long-term contracts demand it.

This trend in Hollywood is depriving many major studios of leading players, many of whom are signing up with the independents.

BAKER: All this seems to suggest that Hollywood is not satisfied with the type of films which it is turning out?

SCOTT: I wouldn't say that, but one thing is certain—our studios are pretty impressed with the product reaching the U.S. from this country.

BAKER (speaking later to director Dmytryk): Most visitors tell us that British product is a very considerable success in the States. Is this strictly accurate?

DMYTRYK: Such films as "Henry V" are doing remarkable business; but British product is a long way from being exhibited in the U.S. as Hollywood films are over here. Arthur Rank made a wise move in making a deal with RKO to shoot pictures over here and in Hollywood with Anglo-U.S. units. In this way Rank has assured nation-wide distribution for the films in the States, providing valuable publicity for your British stars.

BAKER: I've heard a lot from producer Adrian Scott about how British studios compare with those in Hollywood. What are your views?

DMYTRYK: Your schedules are long compared with those in the U.S., where ten weeks is an average for a really big picture. The "B" pictures are often made in fourteen days, making use, of course, of standing sets. You are short of stages over here and cannot keep series of standing sets.

I don't think your schedules are seriously over-long. Those which over-run for a considerably long time appear to be due to high-level organisational trouble, and, in some cases, because the production was not adequately planned before it went on the floor.

One thing is certain, your work is slowed down by a lack of the right types of labour. Wages in British studios are much too low for all grades other than key technicians and artists. A property man in the States is paid as much as £50 a week compared with the £7 or £8 in this country.

I find no shortage of labour on the set. In fact, in some cases you appear to have four men on a job which two men would do in Hollywood. Now an increase in wages would attract the right kind of man into every department of the business and would definitely speed up work. Wages are the lowest item on any production budget. It would be well worth increasing pay to assure a week off the schedule.

* * *

FOOTNOTE: The decision to bring Scott Dmytryk and Carlson to this country created a minor storm from A.C.T. because of its "foreign technicians" rule; but things were eventually straightened out.

They are working on "So Well Remembered"—the first subject from Alliance Productions the RKO-Radio-Rank company set up during Arthur Rank's trip to the U.S. some months ago. Story was by English writer James Hilton. Hollywood's John Paxton wrote the screenplay. Hollywood's Zuberano is the production illustrator, working with British art director L. P. Williams.

Scott has an assistant in Ruby Rosenberg, who was assistant director on RKO-Radio's "My Favourite Wife." Production manager is England's Phil Brandon, and assistant to the director is Hollywood's Bill Watts.

Asked: "Can such a mixture of personnel, never meeting each other until a few days before floor work starts, make a picture as well as a long-established American or British team?" director Dmytryk replied with an emphatic, "Yes."

Production started mid-July, ends November 6.

Next Alliance Productions subject will be made in Hollywood—but no script or unit is set.

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PRODUCTION PRESTIGE—Continued

basis. For example, if a minimum of six reels for a registered feature were laid down, the limit of toleration, even by the most irresponsible showman, would be reached. It is certain that the present state of affairs cannot be allowed to continue unchecked.

Let us now turn from the cheap and almost fraudulent "feature" to the genuine but over-expensive article. No one who is connected with production imagines that wastefulness is confined to the publicised superpictures which we see once or twice a year

There are several studios run with business-like budgets and authority to enforce them. There are other units where directors, many of them extremely able, are given their heads on expenditure to an extent which is as uneconomic as it is demoralising.

A Fair Price

Before the war, £30,000 to £40,000 was quite a fair picture cost; many famous and highly profitable subjects were made for this in the 1930's.

To-day it is not at all unknown for cutters having to scrap footage costing this from a single picture, simply because of inordinate length. Whole sequences, including the result of much time on distant locations, the salaries of expensive players and the overheads of elaborate sets, have to be jettisoned —and nobody seems to do anything about it.

There is only one explanation. The directors responsible are not sufficiently controlled from above. Budgets are cheerfully exceeded, often doubled, simply because no one has the authority to call a halt at the right time.

We hear a great deal about the lack of co-operation from studio labour, skilled and unskilled. I suggest that much of the spirit of dissatisfaction among floor personnel is due to their lacking confidence in the organisation of the studio in this vtal respect. If anybody is aware of the wasteful methods that send up picture costs, it surely must be those whose skill brings the pictures into being.

Mismanagement

Their own loyalty, I am convinced, prevents them from spreading abroad the facts of scandalous mismanagement that happen only too often;but few of them can be really happy over heavy costs needlessly incurred. A little more rigid supervision of production schedules, and you will find a respect for the business side which is often lacking to-day.

Discipline is as important in a creative industry as in any other; and those most in need of it to-day include some of our film directors, who are given a latitude which in Hollywood would be regarded as ridiculous.

TEN YEARS OF ACHIEVEMENT

Ten years ago. Norman Leevers and the late Roy Rich joined in partnership and formed Leevers, Rich and Co., Ltd., an independant technical unit specialising in sound recording.

Their first enterprise was the launching of a mobile sound recording unit for location work. At the outset the policy of re-investing profits in the business was adopted and, as a result of this, the partners were able to take their next step in developing the business—the opening of a small post-synchronising studio in 1937. New apparatus was installed and the business was steadily expanded to embrace all types of recording.

In the latter part of 1944, the company moved into larger premises in Wardour Street, where two studios were equipped for 35-mm. and 16-mm. recording.

In the ten years of its existence Leevers. Rich has completed sound tracks for over 3,000 35-mm. films and over ten million feet of 16-mm. recording.

A CENTRAL WARDROBE WOULD BE AN ASSET TO EVERYONE

A scheme for the setting up of a central wardrobe for the use of all studios is outlined in this article by Ernest Beha, wardrobe stores supervisor at Gainsborough studios. How this can be achieved and the advantages to be obtained from such a service is of particular interest in view of the widespread discussion on the subject by those concerned in the reorganisation and development of studios.

by ERNEST BEHA

CAN a central wardrobe be set up that will operate successfully and not impair the dress standard of modern productions? If this question has been put to me once, it has been put a dozen times in the past months.

My answer is "Yes."

Four essentials are needed to make a central wardrobe function efficiently:

1. Centralised premises, preferably in the West End.
2. An efficient staff of designers and dressmakers.
3. A competent buyer who knows, in these days of shortages, exactly where to go for the materials required, and
4. The complete co-operation of the wardrobe supervisor.

Weakness in any one of these categories would sink the boat. I need not enlarge on the second and third points, which are obvious necessities; neither need I go into the mechanics of the financial set-up which should be a straightforward job of organisation. But let us look at the kind of premises that would be required for the huge stocks of costumes and dresses that would accumulate.

The Type of Premises

It would not be practicable, even if there were room, to add a warehouse on to Denham studios, or to take over another two or three houses in Lime Grove, because it would still be necessary for artists from other studios to reach these places for fitting, and time would be wasted travelling.

Now, wardrobe supervisors and artists are frequently in the West End, and fittings could be arranged here more easily.

The premises, of course, would have to be spacious, not only to house the stock, but to deal with crowd artists, who, as every wardrobe worker knows, are apt to swoop down in a horde, all clamouring for attention at once. What a blessing it would be to the wardrobe staff generally, to be relieved of the overcrowding that takes place on these occasions at most studios!

So much for the premises.

Now, how about co-operation from the wardrobe supervisors? From experience I know that many would not take kindly to the idea of their own studio stocks being moved out of their immediate control. They know, with hardly a moment's thought, what dresses they have on hand to suit a particular artist. Would that dress be available at the central headquarters, or would they have to hunt through a quantity of unknown stock?

Arguments Against

Tradition dies hard, never more so than in the studio wardrobe. At Shepherd's Bush, when we first pooled the stock, all sorts of arguments were put up in opposition—dresses "dated" so rapidly, the artists would object to wearing clothes designed for other people, and so on. But our staff soon became used to the idea and found that the wardrobe stores was a first-class asset.

One of the chief benefits of centralisation, as I see it, is that the Industry would have complete charge of all costumes made for production. Not only would they be on hand for use in subsequent films, but they would be ready at a moment's notice to help the publicity men with after-production exploitation. On several occasions in the past when hired dresses have been returned to the costumiers, it has been disappointing to the distributors and kinema publicity chiefs, not to be able to use a particular dress for display because it is no longer "in stock."

I'm not suggesting that a central wardrobe would take the place of the costumiers. That has been a charge levelled at the Gainsborough "pool."

100,000 Coupons Saved

We never intended to become costumiers. After all, our job at the studios was to make films, not to hire out clothes. We were forced into the position of conserving our dress stocks through clothes rationing, but it is gratifying to reflect that in five years of operation Shepherd's Bush has been the means of saving upwards of 100,000 coupons through the hire department.

What we also achieved was the building up of a stock of dresses that we knew were the right kind for the film Industry. They were in the first place designed by our own experts who knew what the technicians required and what was suitable for production purposes.

The majority of costumiers, on the other hand, are essentially *theatrical* costumiers. and there is a great difference between the two techniques.

It needs little imagination to realise the tremendous help that could be given in the training of juveniles for positions in the studio wardrobes if a central service was formed.

The unions, at the moment, are tackling the situation, notably the N.A.T.K.E., in their efforts to set up an apprenticeship scheme to encourage beginners to develop their talents in ordinary dressmaking and designing; but a central wardrobe could go a step further in providing actual experience in film wardrobe work.

Cinderella Department

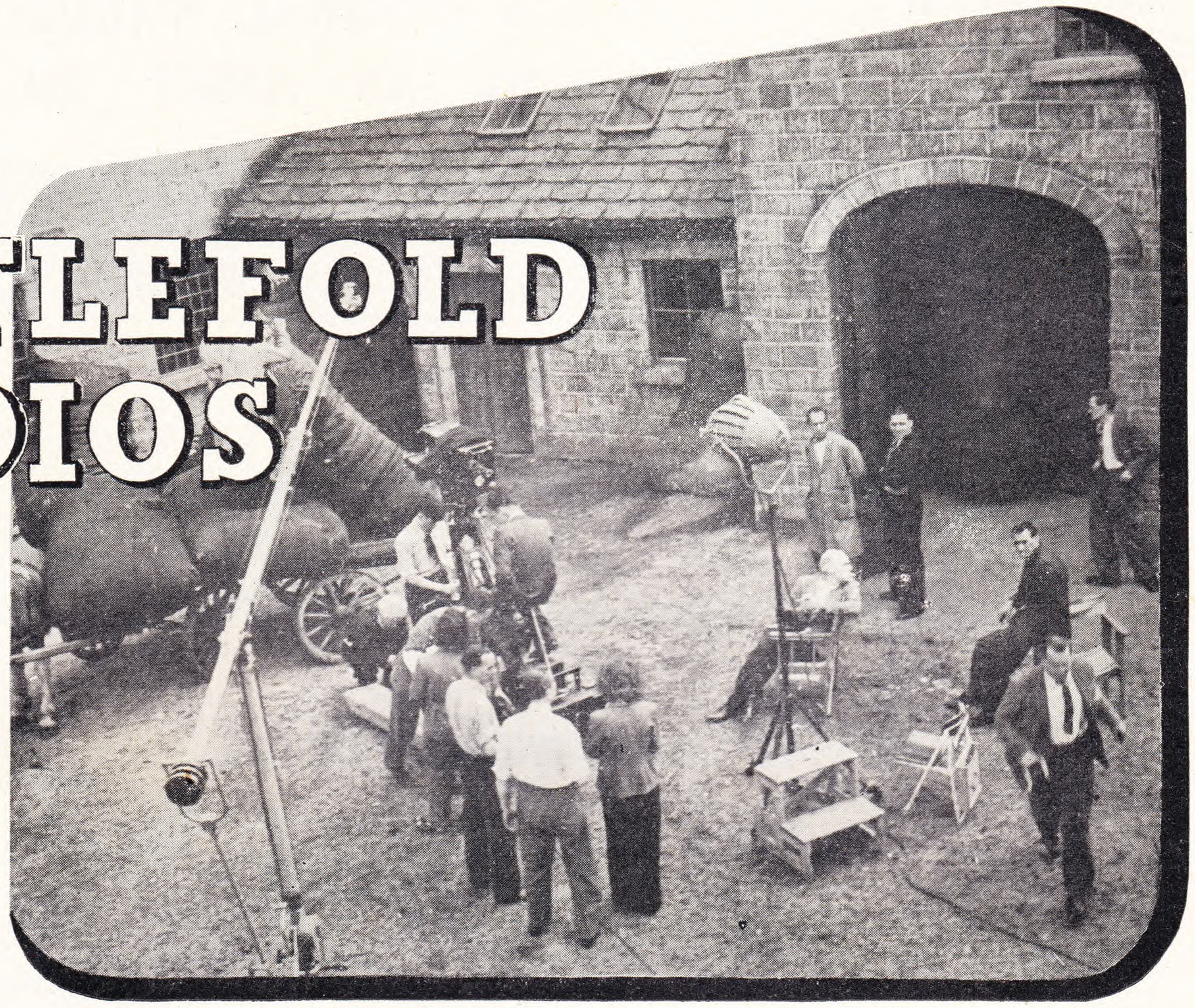
For some unknown reason the wardrobe has always been regarded as the Cinderella department, though its function, to my mind, is just as important as make-up, casting or any other branch of the studio business. Gone are the days, thank goodness, when any Tom, Dick or Harry could find a cosy corner for themselves handing out costumes and experimenting in a vital job that should be the exclusive faculty of an expert.

I heard of a case recently when a garage mechanic applied for a studio job, was directed to the wardrobe "to make himself useful," and eventually became the wardrobe master!

After the establishment of a central wardrobe the time need not be far distant when a studio could draw its wardrobe staff as well as its stock, from the central organisation.

The plan should be considered by all those directly concerned with film production.

NETTLEFOLD STUDIOS



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"KINE." CALL BOARD

Technical Credits for Current Film Production

At Bushey

"MYSTERIOUS MR. NICHOLSON" (Ambassador)

Producer, Gilbert Church; director, Oswald Mitchell; assistant director, J. W. Rowal; studio manager, A. W. R. Church; lighting, S. D. (Bunny) Onions; and camera, Bill Noakes.

At Denham

"MEET ME AT DAWN" (Excelsior)

Producer, Marcel Hellman; assistant to production manager, Bert M. Ostrer; production manager, Raymond Anzarut; director, Thornton Freeland; dialogue director, Peter Cresswell; 1st asst. director, Mickey Delamar; 2nd asst. director, Harry Hassell; production assistant, Bill Herlihy; asst. to casting director, Peter Blom; continuity, Peggy Singer; chief editor, E. B. Jarvis; assistant editor, Mrs. R. Swan; 2nd asst. editor, Mark Cohen; art director, Norman Arnold; and construction manager, Ernest Marlow.

Lighting cameraman, Gunther Krampfe; cameraman, Ralph Franckie; 1st camera assistant, Syd Davies; clapper-boy, Stephen Minchin; chargehand props, J. O. Haydon; chargehand dresser, C. Stevens; grip, J. Hayden; standby carpenter, R. Rushbrook; standby stagehand, W. Rance; and standby painter, H. Lewis.

Sound supervisor, C. S. Stevens; maintenance, J. C. Cook; mixer, R. Barnes Heath; recordist, A. G. Thompson; boom operator, K. Ritchie; asst. boom operator, D. Bloxam; chief make-up, G. Claff; hairdresser, Jean Beare; wardrobe master, Goff Price; wardrobe mistress, Alice McLaren; music composer, Mischa Spoliansky; publicity director, D. L. Blumenfeld; and first chargehand electrician, C. Cambridge.

"SO WELL REMEMBERED" (RKO-Rank)

Producer, Adrian Scott; production manager, Phil Brandon; director, Edward Dmytryk; 1st asst. director, Roy Goddard; 2nd asst. director, Paul Kelly; 3rd asst. director, Pat Marsden; casting director, Maud Spector; continuity, Joan Barry; chief editor, Doug. Robertson; asst. editor, David New house; art director, L. P. Williams; asst. art director, Roy Oxley; construction manager, Mr. Searle.

Lighting cameraman, Freddie Young; camera operator, Skeets Kelly; clapper-boy, Alec Thompson; gown designers, Renie, Honora Plesch; wardrobe master, Fred Pridmore; wardrobe mistress, Peggy Henderson; make-up artist, John Wilcox; asst. make-up artist, Sidney Turner; hairdresser, Vivien Walker; stills, Arthur Evans; sound mixer, Mr. Lindop; sound recorder, Mr. Goodes; boom operator, Mr. Hildyard.

Cast: George Boswell, John Mills; Olivia Channing, Martha Scott; Dr. R. Whiteside, F. J. McCormick; Julie Morgan, Patricia Roc; Charles Winslow, Richard Carlson; Mangin, Reginald Tate; Annie, Beatrice Varley; Whetherall, Julian Dalbie.

"FAME IS THE SPUR" (Two Cities)

Producers and directors, Roy and John Boulting; screenplay scripted by the Boulting Brothers from Nigel Balchin's adaption of the Howard Spring novel; associate producer, George Brown; production manager, Peter de Sarigny; production secretary, Anita Melburg; assistant directors, Michael Anderson, Francis James and John Redway; continuity, Angela Martelli; lighting director, Stanley Pavey; associate lighting cameraman, Harry Waxman; camera operator, Gilbert Taylor; sound mixer, Sasha Fisher; recordists, Laurie Clarkson and Ken Rawkins; boom operators, Fred Ryan and James Daniel; editor, Richard Best; assistant editors, Edith Burbeck and Nicholas Gurney; research, Max Benedict; art director, John Howell; set dresser, Roger Ramsdell; stills, David Boulton; costume designer, Honora Plesch; assistant costume designer, Jane Castles; and musical director, John Wooldridge, D.F.C., D.F.M.

Cast: Michael Redgrave, Rosamund John, Bernard Miles, Carla Lehman, Hugh Burdon, Marjorie Fielding, John Slater, Wylie Watson, Avis Scutt, David Tomlinson, Jean Shepeard, Percy Walsh, Ronald Adams, Bill Rowbotham, Lawrence Kitchin, Clifford Buckton, Anthony Wager, Brian Weske and Gerald Fox.

At Ealing

"THE LOVES OF JOANNA GODDEN" (Ealing)

Producer, Michael Balcon; director, Charles Frend; associate producer, S. Cole; unit manager, Slim Hand; 1st asst., L. Rudkin; 2nd asst., Ed. Joseph; 3rd asst., John Meadows; continuity, Phyllis Crocker; camera lighting, Douglas Slocombe; camera operator, Jeff Seaholme; 2nd unit lighting cameraman, Leslie Rowson; sound recordist, A. Rudolph; boom operator, Thomas Otter; art director, Charles Woolveidge; make-up, Dave Davo; asst., H. Wilton; hairdresser, Marjorie Whittle; men's wardrobe, Larry Stewart; women's wardrobe, Lily Payne; location manager, Billy Russell.

At Elstree

"GREEN FINGERS" (Br. National)

Executive producer, L. H. Jackson; director, John Harlow; production manager, Fred A. Swann; screen play by, Jack Whittingham; adapted by, Jack Whittingham and John Harlow; from a novel by Edith Arundel; 1st assistant director, Leigh Aman; joint second assistant directors, Jack Lambert and George Aldersley; continuity, Joan Wyatt; art director, C. Wilfred Arnold; assistant art director, Geoffrey Somerton; scenic artists, Olga Lehmann and Gilbert Wood; director of photography, Ernest Palmer; camera operator, Moray Grant; musical director, Hans May; sound supervisor, Harold King; sound recordist, G. Adams; sound cameraman, C. Brown; focus operator, John Dean; clappers, Ron Follett; loader, Jack Mills; boom operator, J. Moyes; boom assistant, Derek Swynnerton; still photographer, Frank Buckingham; wardrobe buyer, Esther Lilley; wardrobe mistress, Mrs. Tweedy; make-up artist, Henry Hayward; make-up assistant, Dave Aylott; hairdresser, A. G. Scott.

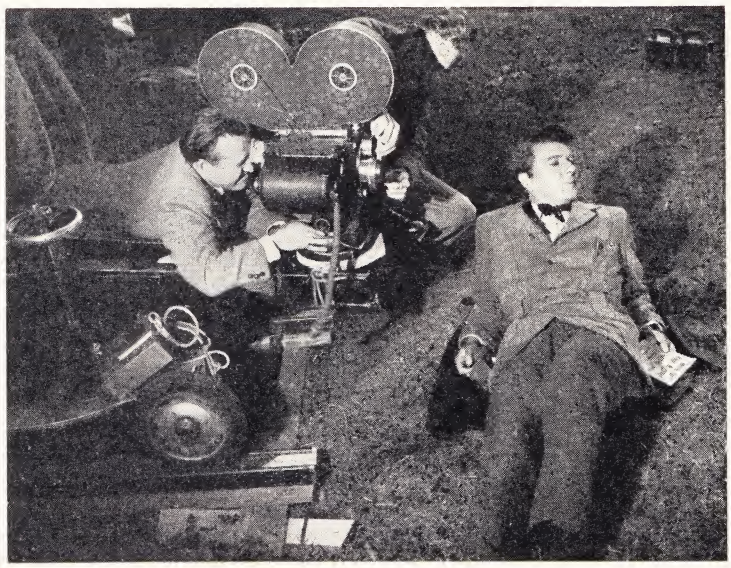
At Hammersmith

"UPTURNED CLASS" (S. Box)

Producer, Sydney Box; associate producer, James Mason; in charge of production, Betty E. Box; director, Lawrence Huntington; 1st asst., Basil Keys; 2nd Asst., Roy Miller; 3rd Asst., Ken Endine.

Production manager, Fraser Foulsham; production manager, Antony Darnborough; production secretary, J. Eastwood; director of photography, Reginald Wyer; camera operator, Bernie Lewis; focus operator, J. Winbolt; loader, F. Cooper; recording supervisor, George Burgess; sound recordist, John Mitchell; sound camera operator, A. Kelly; boom operator, Moray MacFarlane; supervising sets, James Carter; art director, Andrew Mazzie; technical assistant, J. Engelbach.

Editor, Alan Osbitson; cutter, Jean Barker; continuity, M. Pearson; asst. continuity, B. Plummer; publicity director, Betty Callaghan; casting director, Nora Roberts; still photographer, Cyril Stanborough; make-up artist, N. Taylor; asst. make-up, G. Turner; hair stylist, F. Steiger; property master, J. Bigg; wardrobe supervisor, Dorothy Sinclair; wardrobe mistress, A. Binney; wardrobe assistant, M. Goodfellow.



Stan Pavey, lighting director on the Boulting Brothers' FAME IS THE SPUR, gets a close look through the camera at star Michael Redgrave while on location at Knole, near Sevenoaks. Redgrave is set for Hollywood.

At Nettlefold

"THE LONG SHOT" (Grand National)

Production, Victor Katona; director, Maurice J. Wilson; assistant director, Gordon Lipman; camera, Freddy Ford; production manager, Charles Leeds. The screen play is by Patrick Kirwan, with additional dialogue by Mabel Constanduros.

Cast: Wilfrid Lawson, Mabel Constanduros, Jeanne de Casalis, Leslie Perrins, Seamus Lock, Maureen Glynne, Peter Bull, Desmond Tester, Gus McNaughton, Charles Farrell, Harry Herbert, Bert Gerrish, Victor Woods, Giselle Morlaix, Joy Frankau, Douglas Stewart, Leonard Shepherd, Van Boulen and Fred Griffiths.

At Pinewood

"TAKE MY LIFE" (Cineguild)

Producer, Anthony Havelock-Allan; director, Ronald Neame; production designer, John Bryan; art director, Wilfrid Shingleton; lighting camera, Guy Green; 1st asst. director, George Pollock; and continuity, Margaret Sibley.

OTHER CREDITS NOT SUPPLIED.

"CAPTAIN BOYCOTT" (Individual)

Producers, Frank Launder and Sidney Gilliat; director, Frank Launder; studio, Pinewood; original story, Philip Rooney; screen play, Frank Launder and Wolfgang Wilhelm.

M. Smedley-Aston (production manager), Leslie Gilliat (unit location managed), Thelma Myers (film editor), Percy Hermes (assistant director), Wilkie Cooper (camera lighting), E. Carrick (art director), Chris Noble (second assistant director), Eric Braun (third assistant director), A. Pike (fourth assistant director), Paddy Arnold (continuity), Sally Sutherland (publicity), G. McKnight (publicity assistant). Ossie Morris (camera operator), W. Hutchinson (assistant art director), J. Lowin (focus), Sophie Harris (dress supervisor and designer).

A. Perry (clappers), S. Bland (grips), W. Surridge (stand-by carpenter), Jack Woodstock (stand-by painter), F. Alexander (electrician), A. Bradley (electrician), J. Gower (props), E. Underwood (props.), H. C. Lucas (stills), and Cynthia Fredericks (production secretary).

Stars: Stewart Granger, Kathleen Ryan.

At Shepherd's Bush

"THE BROTHERS" (S. Box)

Producer, Sydney Box; associate producer, Walter D'Eyncourt; director, David McDonald; production manager, Tony Keys; cameraman, Stephan Dade; art director, George Provis; costume designer, D. Sinclair; editor, V. Sagovsky; editor's assistant, Hilary Taylor; make-up, W. Partleton; stills, C. Haine; wardrobe, H. Owen; recordist, A. Rhind.

Asst. director, Alf Keating; 2nd asst. director, Billy Ash; 3rd asst. director, Ken Birrell; camera operator, Gordon Lang; asst. cameraman operator, Frank Bassill; numbers, K. Lankshear; continuity, Betty Forster; hairdressing, F. Singleman; loading, W. Law; sound camera, T. Sinnott; boom operator, C. Hitchcock; asst. boom, W. Lerman; property master, A. Rumsey; floor electrician, F. Elkins.

"THE BROTHERS," NOW ENDING, IS FOLLOWED BY "JASSY," FOR WHICH CREDITS ARE NOT TO HAND.

At Sound City

"WHILE THE SUN SHINES" (International Screen Plays)

A new company set up to make "While the Sun Shines" at Sound City.

Producer, Anatole de Grunwald; director, Anthony Asquith; associate producer, Teddy Baird; art director, Tom Morahan; editor, Freddy Wilson; production manager, Andrew Allan; cameraman, Jack Hildyard; 1st asst. director, Jack Clayton; 2nd asst. director, John Alexander; 3rd asst. director, David Bush.

Camera operator, Bob Huke; camera assistant, Irvin Pannaman; camera assistant, Wilfred Eades; camera assistant, Walter Lee; sound mixer, Leo Wilkinson; sound boom, A. Ambler; sound recordist, Barbara Hopkins; continuity, Joan Harcourt; make-up, Gerald Fairbank; hairdressing, John Johnstone.

Art department, Kenneth King; art department, Walter Rees; art department, Marjorie Whittington; art department, Nancy Noble; production secretary, Rita Davison; casting, Pat Newman; wardrobe, W. Laming; wardrobe, E. Gibbs; musical director, Nicholas Brodszky; stills, Ronnie Pilgrim; stills assistant, Raymond Hearne; floor electrician, Jack Sullivan; stand-by props, Bert Bayne; stand-by props, Bill Rolfe; standby-props, Jack Bark; stand-by painter, Jack Tomson; stand-by carpenter, George Apprill; stand-by stage hand, Alf Leonard; camera grip, Ray Jones; publicity, "Bill" Sykes.

"KINE." CALL BOARD—Continued

At Worton Hall

"SHOP AT SLY CORNER"
(King)

CREDITS NOT SUPPLIED.

At Welwyn

"TEMPTATION HARBOUR"
(A.B.P.C.)

Producer, Victor Skutezky; associate producer, Hamilton Inglis; director, Lance Comfort; production manager, W. A. Whittaker; assistant director, Gus Agosti; director of photography, Otto Heller; camera operator, Gus Drisse; art director, Cedric Dawe; stillsman, H. Cornelius Lucas; make-up, Bob Clark; hairdresser, Polly Richards; and continuity Elaine Schreyech.

Adapted for screening by Rodney Ackland, Frederick Gotfurt and Victor Skutezky, with additional dialogue by Margaret Kennedy.

Cast: Robert Newton, Simone Simon, William Hartnell, Margaret Barton, Helen Goss, Dave Crowley, and Jean Hopkins.

ON LOCATION

"HE LIVED TO HANG"
(Gordon Kyle)

Producer, Gordon Kyle; production supervisor, Laurie Lawrence; editor, Douglas Myers; 1st asst. director, Hal Brown; lighting cameraman, Gerald Gibbs; camera operator, Ken Talbot; focus operator, Peter Lambert; sound, Tom Druce; continuity, Brenda Whitby; make-up, Fred Foster; wardrobe, Mary Leslie; hairdresser, A. Beber; properties, Don Ross.

"GREEN DAYS, BLUE DAYS"
(Archers)

In Brazil. Unit is:

Director, Derek Twist; production manager, John Alderson; editor, Brett Porter; assistant director, Geoff Lambert; second assistant director, Bob Lynn; lighting cameraman, Chris. Challis; operator, Reg Hughes; loader, Max Samett; stills, Monty Berman; continuity, Dorothy Tomson; assistant art director, E. E. Scott; make-up, Dick Bonner-Moris; process assistant, Tom Howe; cashier, Eric Houseman; camera assistant, Gus Lankford.

"SILVER DARLINGS"
(Pathé)

Karl Grune, producer; Clarence Elder, director; Sam Lee, production manager; Leon Clore, 1st asst. director; Gladys Reeve, continuity; Francis Carver, director of photography; Paddy Vinten, 1st camera operator; Henry Slagter, 1st camera asst.; Peter Broxup, 2nd camera asst.; Tony Frey, clappers and loader; Leslie Ostinelli, 1st effects camera operator; and Pierre Henfrey, 1st effects camera asst.

Location, Wick, Scotland.

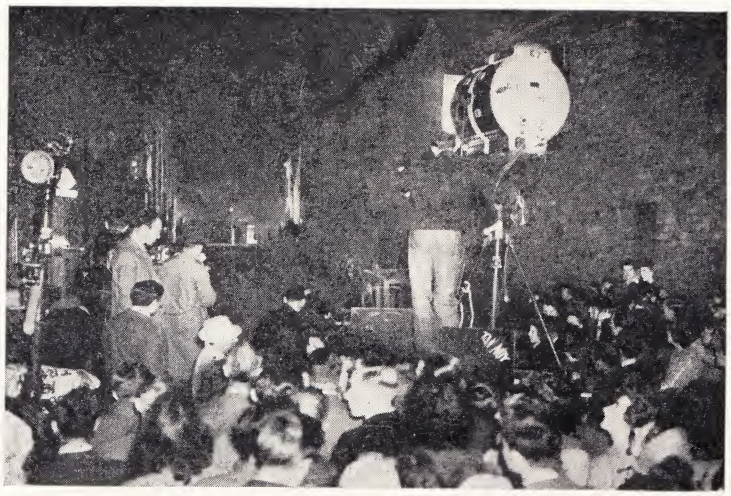
B.A. SOUND IN BRITISH SUCCESSES

The present wave of popularity which British films are enjoying is a tribute to the technical no less than the artistic qualities of the production.

British Acoustic draws attention to the fact that the following films have all been recorded by the British Acoustic process.

They are:

"The Wicked Lady," "Madonna of the Seven Moons," "The Man in Grey," "Fanny by Gaslight," "Waterloo Road," "Dear Octopus," "Caravan," "A Place of One's Own," "Love Story," "I'll Be Your Sweetheart," "They Were Sisters," "George in Civvy Street," "Beware of Pity," and "This Man is Mine."



Night operations on exteriors in the streets of Macclesfield for the RKO-Radio Rank production SO WELL REMEMBERED, starring John Mills and Martha Scott, attracted large crowds

FILMS PLANNED FOR EARLY STUDIO WORK—Continued

Location work finished on the Edward Black production, **Bonnie Prince Charlie.** Black is going ahead with location on **A Man About the House.** His unit will be in Italy until the end of October.

The director is Leslie Arliss, and the stars are Kieron Moore, Margaret Johnstone and Dulcie Grey. Screen play is by J. B. Williams and George Perinal is lighting cameraman.

A new company within the group, Kinsman Picture Corporation, is planning a series of features with the British Empire as location backgrounds. Producer Roland Gillett is with a unit in Canada for preliminary work on **Maria Chapdelaine,** which will be filmed at Worton Hall, starting in November. Stars are Trevor Howard and Barbara White. Director is Rodney Ackland, who wrote the script with Gillett. Ray Kellino is on the camera.

Korda's film, **Smokey,** from the Moore Raymond story, is in preliminary stages of production. Raymond will be in Australia during the winter months looking for a boy "discovery" for the title rôle.

Two films set for the Shepperton studios in the Spring of 1947 are Orson Welles' **Round the World,** with Cole Porter music, and Paulette Goddard in **Carmen,** from the story by Prosper Merimée. No technical details are set.

TWO CITIES

Two films recently completed—**Hungry Hill** and **Odd Man Out**—are being followed by the Boultings' **Fame is the Spur.** The next subject will be **Uncle Silas.**

Producers, Laurence Irving and J. Somlo.

Director, Charles H. Frank.

Production manager, Jack Hicks.

Screen play by Ben Travers, from the novel by Sheridan la Fanu.

Production, designed by Laurence Irving.

Cast, to be announced later. Joan Simmons will have a starring rôle.

Starts at Denham in October.

The October Man.
Producer, Eric Ambler.
Director, Roy Baker.
Original story and screen play by Eric Ambler.
Cast is not set.
Starts at Denham in November.

These films will be in the 1947 programme:—

Secret People.
Producer and director, Thorold Dickinson.
Original screen play by Joyce Cary and Thorold Dickinson.
Cast is not set.

The World Our Cradle. Written and directed by Peter Ustinov.

Precious Bane. Produced by Paul Soskin and directed by Terence Young.

Marlborough, Byron, Joanna, and **Red Herrings.** No further particulars are available at present.

MONTGOMERY MOVES

R. L. Montgomery, in charge of Jock Lawrence's London Office, has moved his offices temporarily to the Odeon Theatre, Marble Arch, W.2. Telephone: Paddington 8011. All communications should be sent to this address.

CAPCO RECORDING GEAR REAPPEARS

Important New Developments

IN the very early days of talkies, one British studio had the courage to instal British-made recording equipment. Over many years this equipment was responsible for the recording of a large number of films—the leading British productions of their day, including a number of musicals.

The equipment in question was the Capco, made by the Caplin Engineering Co., of Willesden. A new Capco recording channel will shortly be marketed, combining the features of the original apparatus, in conjunction with one important advance, then debarred to it by patent restrictions: noiseless recording.

Squeeze Track

Incorporated in the recording camera is a shutter device, actuated by an additional amplifier, which serves to produce a squeeze track; it is generally accepted that the variable-area squeeze track is probably the most efficient type of track, from the points of view of noiselessness and volume range, and in regard to the control that can be exercised over the action of the shutters.

The increasing importance of the 16-mm. field is recognised, and a 16-mm. version of the 35-mm. recorder is now in development.

During the war years the firm of Caplin may lay claim to having virtually commenced a new industry in this country: the manufacture of the tiny quartz crystals used for maintaining frequency in radio transmitters. Before the war these crystals were made by hand—a laborious process, especially since quartz is harder than glass. The enormous demand for such crystals for the innumerable types of radio transmitters used in the Services made it imperative that a mass-production system be devised.

Special War Work

Caplin's had for a number of years manufactured a small grinding machine, which had already proved itself capable of a wide variety of special work. After lengthy and laborious experiments, they succeeded in cutting up the ingot of fused quartz by means of diamond cutters, carried on this grinding machine.

The ingot of quartz, of about 1-in. diameter, is first cut into thin slices; these slices are then cemented on to glass and cut through, first in one direction, then in the parallel direction, to produce the tiny crystals needed for short-wave transmission. In this last job, instead of taking hours to cut one piece of quartz, the job was driven at the rate of 1 in. per minute.

At a time when the Americans were tentatively claiming to have produced crystals only .75 mm. in thickness, Caplin's were actually in mass-production on crystals 0.5 mm. in thickness. The value of this work to the war effort was acknowledged by a special Government award. R. H. C.

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Work in progress converting Denham's stage 1 into a musical recording theatre

HOW A MUSIC RECORDING THEATRE WAS MADE FROM A SOUND STAGE

by CYRIL CROWHURST, Sound Supervisor of D. and P. Studios

DURING the early months of this year, D. and P. Studios realised that a serious hold-up in the output of productions made at their Denham and Pinewood studios might occur as a result of a "bottle-neck" when productions reached the music-recording and dubbing stage.

Facility for recording orchestras comprising about 50 to 60 instrumentalists, now normally demanded by producers, did not exist at the newly opened Pinewood studios.

At Denham studios, music recording had so far been carried out in the combined scoring and dubbing theatre, which could not possibly cope with Denham production requirements plus Pinewood music recording, especially in view of general expansion to come.

Moreover, the Denham dubbing theatre is not suitable for orchestras of more than 40 to 50 players, and the sound department considered that it was not really ideal for first-class quality of music recording, in any case.

Faced with the problems of a "bottle-neck," as well as accommodating very large orchestras occasionally, and the demand for the highest quality of music recording, some solution was sought.

An Emergency Measure

It was agreed that the best course of action would be to build a modern scoring stage, complete with every possible desirable feature, worthy of the high standard of modern British film production. It was equally realised that this would be an impossibility at this time, in view of the nation's building programme.

After detailed examination of the problems involved, a decision was made to convert a small stage at Denham studios for music recording, this to serve as a scoring stage until the more ambitious project could be realised.

Building on Stage 1 at Denham, undertaken by Henry Boot and Son, began on May 8, and was completed by July 24. The work consisted of putting up at one end of the stage a monitor room, a recording room and a projection room above the recording room.

A vocal booth has been provided at the far end of the stage.

The sound equipment installation and wiring, carried out by the sound department, makes provision for two-channel recording. For instance, in the event of a vocal number being recorded, the vocalist can be located in the vocal booth, and through a glass window can view the conductor, and can listen to the orchestral accompaniment, possibly by use of headphones.

Aiding the Vocalist

A microphone picks up the voice, and this is recorded on film, while the orchestra is recorded on separate film. As a result, when the production reaches the dubbing stages, balance between voice and orchestra can be very finely controlled.

There are definite advantages in this method—which is common practice in Hollywood for certain work. An even greater number of channels are frequently used in the U.S., and our future scoring stage will undoubtedly make such provision.

The monitor room is suitably treated acoustically and constructed to give desirable sound insulation from the stage, and contains the mixer desk, on which are mounted the controls whereby the output of the microphones is balanced and controlled together with indicator meters and various other controls.

A large high-quality speaker unit (Western Mirrophonic) reproduces the sound being recorded; also in this monitor room are certain rack-mounted amplifiers, controls and equalisers.

The recording room is equipped with various racks on which are mounted the many amplifier and control panels required to furnish the two recording channels, each of which supplies both film and disc recording machines. The disc recording machines with their local amplifiers were supplied by the M.S.S. company.

Playback from these machines is provided, with control from the stage, *via* amplifiers, to a large high-quality Western Electric horn system on the stage.

The two film machines to be provided are the modern Western Electric 1231B, 200-mil, push-pull recorders; these are not yet available, but are on their way. Meanwhile, a normal Western Electric recording machine has been installed temporarily.

Above the recording room, the projection room houses the projector, in conjunction with which is an impulser, which actuates a device situated against the screen and gives an indication in minutes and seconds of the time elapsing from the start of the picture.

Also in the projection room, a track reproducer machine provides sound in headphones for the conductor.

A Touch of Liveliness

The stage was, of course, acoustically treated, the walls and ceiling being covered with rock wool, resulting in rather a dead acoustical condition. For music-recording purposes, a degree of reverberation or liveness is desirable. Removal of the rock wool would have meant some deterioration in sound insulation and the loss of a desirable acoustical condition when using the stage for other purposes.

To obtain the desired liveness a number of large wooden flats were made, and are spread around the stage. These stand on the floor, but, being also hung from the overhead gantry, are capable of being moved and angled into convenient positions. Additionally, a number of panels are hung overhead.

The first recordings made under these new conditions have proved very successful, and indicate the value of this new feature at Denham.

BOOM TIME

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NEW DEVELOPMENTS IN VARIABLE-AREA SOUND PICTURE RECORDING

Attractive Features and Improvements in Gaumont-Kalee Apparatus Layout

INTENSIVE research and experiment during the past 16 months by Gaumont-Kalee technicians have led to a vastly improved recording apparatus which is now available to all producing companies. The problem has been aproached from all sides, and the design is receiving high praise from all those who are familiar with the results achieved.

The layout is simple and follows familiar lines. Three microphones are supplied with the equipment: a three-channel mixer is standard, the desk being of attractive design. It provides full facilities for monitoring, volume indication and inter-communication with the sound camera operator, as well as a built-in "talk back" microphone.

The mixer output is cable fed through a line equaliser unit to the main amplifier which has built-in automatic volume-range compression. Included in the main amplifier group is the noise reduction unit, monitor amplifier and power unit.

The equipment is designed to work from a 230 volt, 50 cycle single-phase A.C. supply.

The sound camera, in the mechanism of which is incorporated a fluid fly-wheel mechanical stabiliser, is of a new design, with a sealed modulator and totally enclosed optical system, details of which are given later in the present article.

Two alternative types of microphone are available—a velocity-operated dynamic instrument, the moving element of which is a slack aluminium ribbon, .01mm. thick, suspended between the poles of a small permanent magnet of high flux density. It is directional front and rear and has a figure eight polar curve.

The alternative microphone is a cardioid with a 35-10,000 cycles frequency response. Its directivity is adjustable from a narrow beam to fully non-directional.

The Mixer Unit

This consists of three input channels each with its own voltage amplifier and gain control, also variable bass and treble equaliser. The inputs work into a second voltage amplifier, followed by the master gain control and the output stage. The volume-indicator meter has a fast dead-beat movement, its scale being engraved from —4 to —30 decibels, a white pointer moving against a black dial making for better visibility.

The Recording Amplifiers

This is constructed in a vertical stack with equaliser unit, main amplifier, noise reduction unit, monitor amplifier and main power unit. The sections of the stack clip firmly together, with the exception of the power unit, this allowing the stack to be transportable in two sections. Connections are made in front of the stack, a useful feature when the equipment is used in a vehicle. Hinged panels give quick access to the interior.

The Sound Camera

The sound camera provides for normal variable area release recordings and can be used for Class AB push-pull.

Drum scanning is employed, and the fluid flywheel ensures mechanised stability and elimination of flutter and sprocket-hole modulation. With the provision of adequate motor power, synchronous drive is obtained without overheating, and owing to the employment of a minimum number of gears, silence of drive is ensured. A control panel, footage counter with re-set, modulator reversing switch, and manual control for "inching" the mechanism when threading, are provided.

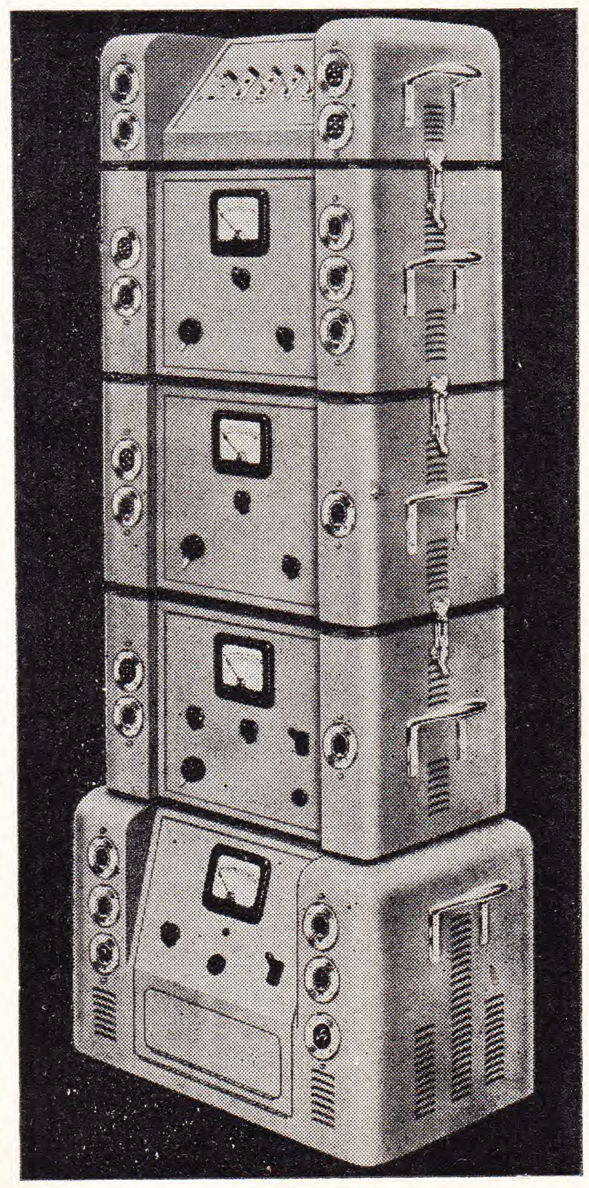
Optical Design

The optical design of the sound camera has a number of new and attractive features—a two-stage illumination system, bloomed lenses, with the light spectrum co-ordinated to the film emulsion characteristic and pre-set focusing.

Provision is made for four-point observation as follows: filament image and mirror shadow; front of film focus; back of film microscope and graticule; inspection eye-piece, scanning mirror and slit.

In the sealed modulator, with its improved frequency response characteristic and sensitivity, a larger mirror than hitherto is used, although the overall size of the modulator is reduced.

The complete sound recording unit includes all accessories such as 1,000 ft. magazines and carrying cases, tripods, inter-com., 6-volt accumulator for mixer heater, cables, etc.



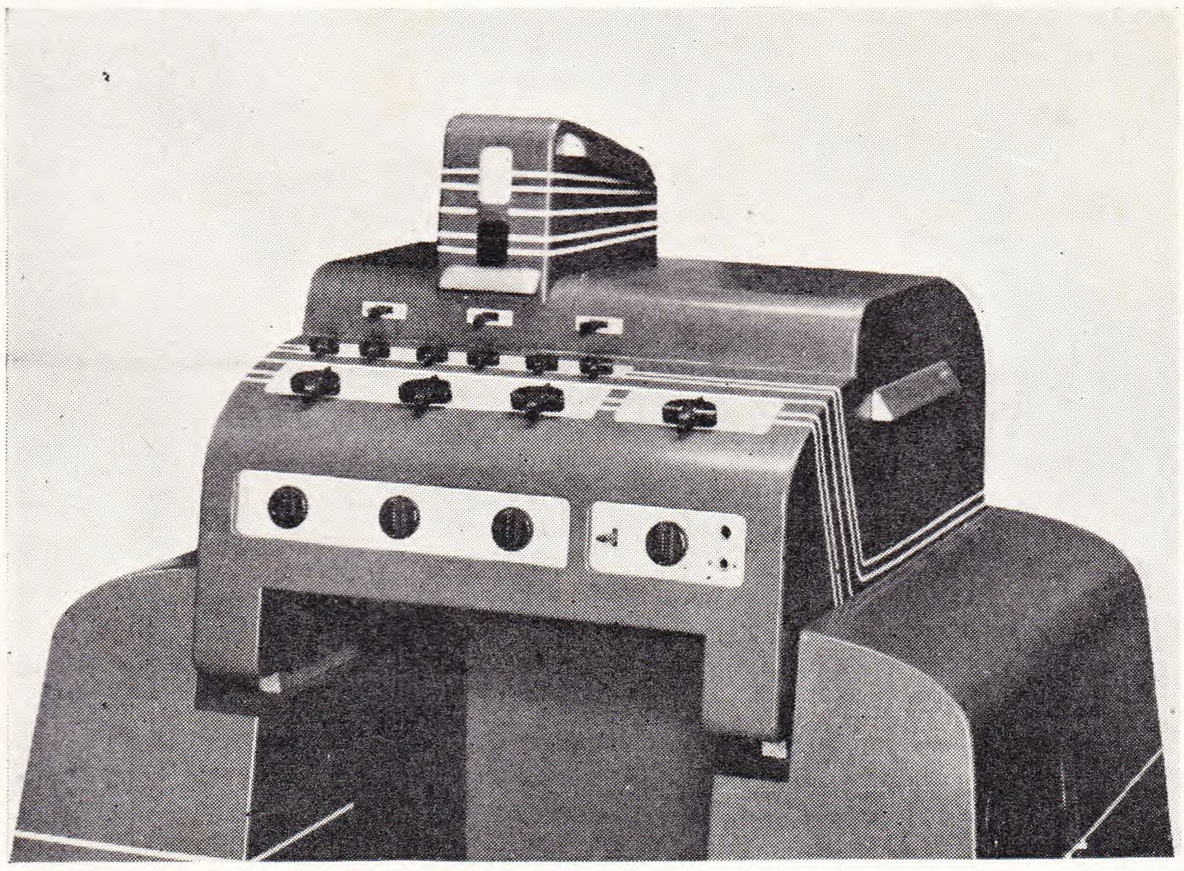
The streamlined amplifier group; each section clips firmly together with the exception of the power unit

B.K.S. WINTER PROGRAMME

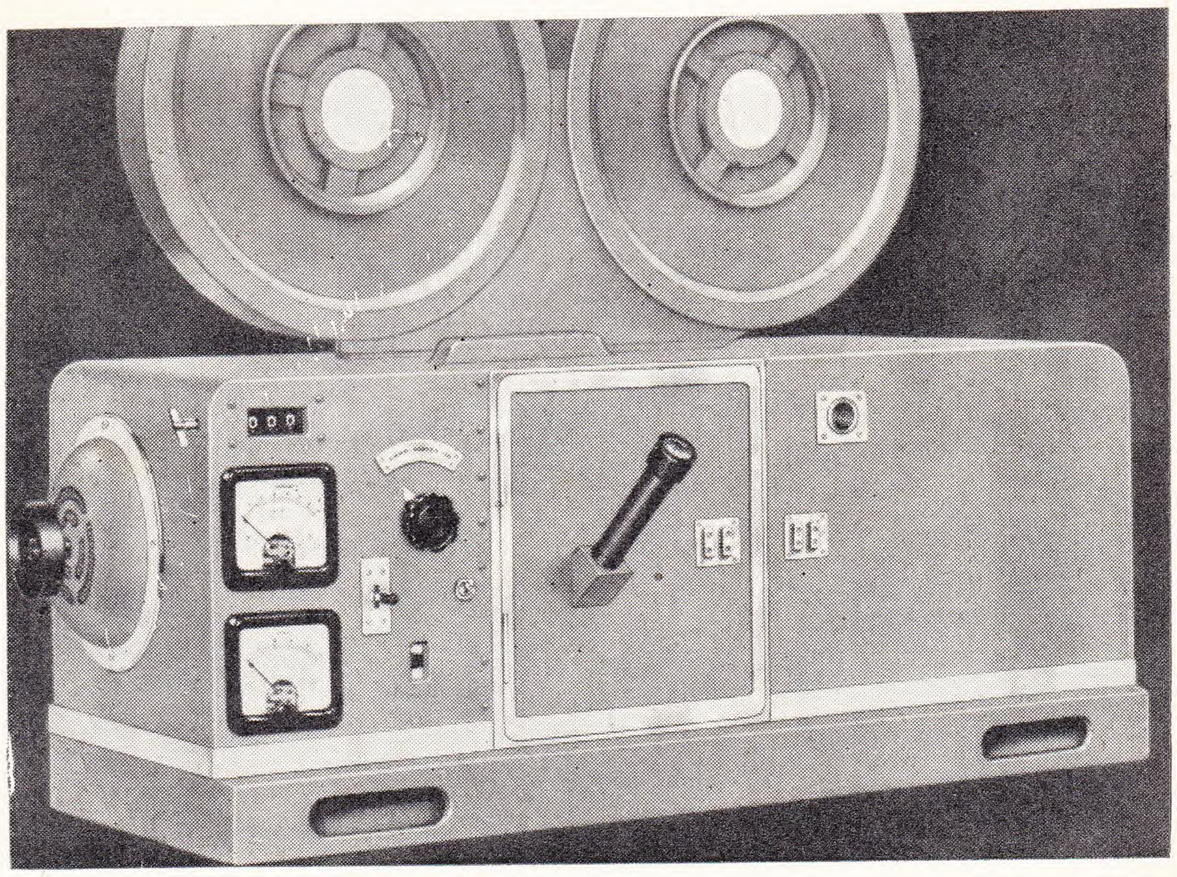
Two lectures on widely different aspects of film production are included in the B.K.S. Theatre Division's winter programme.

They are: "The Work of the Director," by A. Cavalcanti, on December 18, and "The Plaster Shop," by J. H. Grogan, on February 26, 1947.

The meetings take place at the G.-B. Theatre, Film House, Wardour Street, W.1, commencing at 7.15 p.m.



The three channel mixer mounted on a desk of attractive design



A number of new and interesting features are embodied in the design of this sound camera

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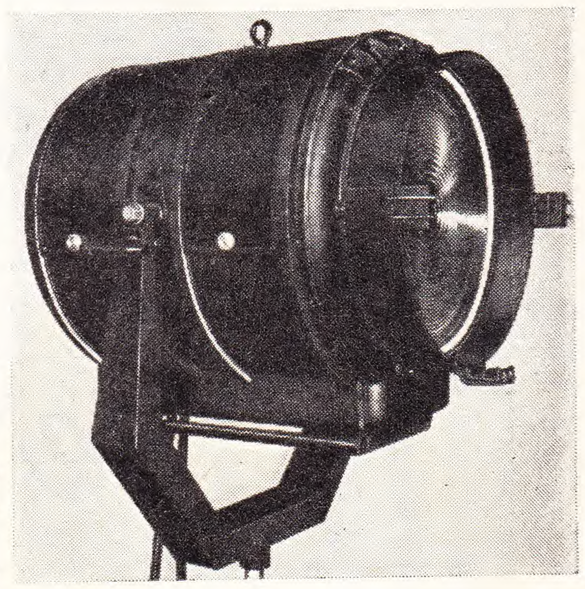
AN ARC LAMP THAT IS SILENT AND ECONOMICAL TO OPERATE

The Purpose Behind the Design of the G.E.C. Double Negative Type

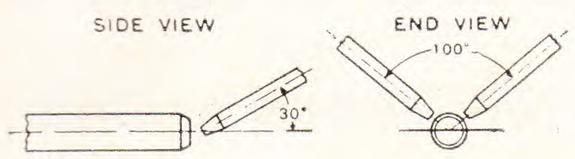


The G.E.C. 150 amp. double negative arc lamp

ONE of the most recent achievements of the G.E.C. Research Laboratories is the design of a new 150-amp. arc lamp for use in studios. It is known as a double negative arc lamp and employs one positive carbon and two negative carbons, each of the latter being 8-mm. in diameter.

R. Howard Cricks, in his technical survey in the KINE.'s first post-war "Studio Supplement," reported on the research which made this new lamp possible.

The positive carbon has been specially developed for use with this new lamp. It is 16-mm. in diameter and is, therefore, of the high-intensity type in which the core is comparatively large in



Illustrating the positions of the two negatives of the new lamp in relation to the positive

diameter and is heavily impregnated with compounds of the rare earths. In the high-intensity arc a high current density is maintained in the positive crater, thereby generating an intense heat which volatalises the core materials and so forms a comparatively deep crater filled with the highly incandescent vapours which rise from the core. These vapours constitute the light source, and the use of a core of suitable chemical composition ensures that the light emitted is the correct colour for colour photography.

Danger of Interference

Hitherto, film studios have used arc lamps each fitted with one negative per positive. Lamps employing this carbon arrangement consume about 150 amp. and often emit a bubbling or "frying" noise which may be reproduced on the sound track of the finished film. This interference is often a serious source of trouble to the sound recording engineers, who sometimes resort to recording the sound separately and synchronise it with the picture at a later stage in order to eliminate the interference entirely.

The production of the interference is dependent upon the current flowing through the negative carbon, and the intensity of the noise increases with the increase of current.

Oscillograms can show this quite clearly, and at currents above the region of 90 amp. they show that the rate of increase is quite high.

Oscillograms have been obtained by placing a suitable microphone close to the arc, amplifying the microphone output and then recording it on an oscilloscope. The amplitude is a measure of the noise intensity.

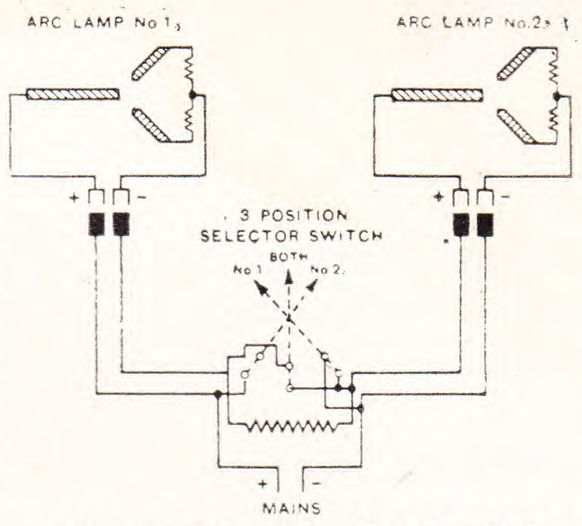
The disproportionate increase of noise at 90 amp. suggested that a more silent arc at higher currents could be produced if the load was shared between more than one negative. Subsequent experiments with a 150-amp. arc employing two negatives, each carrying 75 amp., resulted in an appreciable decrease in the noise coming from the arc.

Further experiments revealed that the amount of noise produced was, to some extent, dependent upon the exact positions of the negatives in relation to the positive. It was found that the noise was still further reduced when the negatives were set at an angle of 100 deg. to each other, and pointing downward towards the positive at an angle of 30 deg.

It should be noted that the use of two negatives reduces only the inherent noise of the arc, *i.e.*, the bubbling or "frying" noise. The two negatives have no appreciable effect upon the noise which an arc produces if connected to an unsmoothed, or insufficiently smoothed, supply. In these circumstances an arc, whether it employs one or two negatives, will act like a loudspeaker and convert electric current of a suitable frequency into audible sound.

Current Saving

The reduction of extraneous noises is not the only advantage of the double negative lamp. The use of two negatives also has the effect of reducing the voltage drop across the arc from 65, which is normal for a single negative arc lamp, to 48 volts, and this enables a considerable saving in current



Schematic diagram of unit which enables either a single lamp or a pair of lamps to be used by the simple operation of a switch

to be made when a given amount of light is required. As the useful light produced by the arc is generated only in the positive crater, the power expended in the remainder of the arc cannot be utilised for producing light, and so the economy of power achieved makes the double-negative lamp a more efficient light source than the corresponding single-negative lamp.

It is necessary, however, that this economy of power shall apply to the complete circuit, not to the arc alone, before it represents a real saving to the user. The complete arc circuit normally consists of an arc lamp with a ballast resistance in series, the latter having a value so that the total voltage drop across the arc and resistance is equal to the supply voltage of 115 volts. Thus, in the case of the single-negative 150-amp. arc, there is a drop of 65 volts across the arc and 50 volts across the resistance, and the total power consumed is 150 × 115 watts, *i.e.*, 17.25 kilowatts.

It would appear at first sight that the reduced arc voltage of the double-negative lamp would not lead to any economy in the complete arc circuit, for the power reduction in the arc would have to be compensated by an increased power loss in the ballast resistance.

Two for One

The reduction in voltage, however, is sufficiently great to bring the arc voltage well below half of the supply voltage, and this suggested that it should be possible to run two double negative arc lamps in series, thereby lighting two lamps for the same power consumption used by the one lamp and its ballast resistance.

Tests have shown that this was an entirely practical arrangement which enables a studio set to be lighted with a power consumption of one-half of that required for corresponding lighting with single negative lamps.

In addition to the ballast resistance, current is applied to the two negatives of each lamp through a centre-tapped resistance, in order to ensure equal distribution of current. As the power dissipated in these resistances is comparatively small they are permanently connected in the lamp circuit inside the lamphouse.

This tabulation shows how much of the total power input is used in producing light and how much current is dissipated in the ballast resistances of a single negative lamp, and two double negative lamps :—

	Arc Current (Amps.).	Arc volts.	Line volts.	kw. in Arc producing light.	kw. in ballast generating heat.	Total Power.
Single Neg. Arc (one lamp with ballast resistance).	150	65	115	9.75	7.5	17.25
Double Neg. Arc (two lamps with ballast resistance).	150	49 (per lamp)	57.5 (per lamp)	14.7	2.55	17.25

The double negative arc lamp can also, if necessary, be used in the manner of the single negative arc—*i.e.*, one lamp in series with a suitable large ballast resistance. Such an arrangement, obviously, is not advisable when circumstances permit the series running of two lamps, but may be necessary for certain situations.

To facilitate the use of one lamp or two in series, a combined ballast resistance and switch unit has been developed. Either a single lamp or a pair of lamps can be operated by the appropriate operation of a switch, and since all double negative arc lamps are identical and self-contained, any two can be operated in series.

In order to obtain maximum value from the improvements effected by this novel arrangement of the arc, great care has been taken with the constructional details. The motor driving the speed mechanism, and the mechanical details of the carbon feed have been carefully chosen and arranged to provide a completely silent drive. The motor is fixed to the lamp by a flexible mounting, so that mechanical vibrations are not transmitted to the metal lamp housing which otherwise might act as a sounding board and emit quite appreciable noise. The gears used are carefully cut and finished.

Materials Employed

Both the lamp mechanism and the lamp house are made, as far as possible, from light alloy materials in order to keep weight down to a minimum and the ventilation system permits a high rate of air-change so that efficient cooling is obtained. The inlet of the ventilation system is filled with baffles which serve the two-fold purpose of preventing light from the arc escaping through the inlet and directing the flow of clean air over the inner surface of the refractor.

The lamp is intended to be used with a refractor of the Fresnel type and will take any make of refractor 20 in. in diameter, the normal size for this type of lamp. It is fitted with a spill ring, which absorbs the light scattered at oblique angles by this type of refractor.

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VISATONE PORTABLE RECORDING CHANNEL

A Neat Piece of Mechanism Highly Efficient and Adaptable

POSSIBLY the lightest and most compact of 35-mm. portable recording channels has recently been completed by Films and Equipments. This Visatone outfit comprises only three units, a control panel and power pack, the amplifier, and the recording camera, the whole energised from a 12-volt car battery.

The amplifier output is only 2 watts, which enables it to be quite small, and to have a minimum power consumption. The H.T. is provided by a vibrator fed from the 12-volt battery, no H.T. battery being needed. All the circuits are mounted on the back of a panel which hinges forward, making the whole amplifier very accessible for servicing. A variable corrector circuit is provided, giving dialogue equalisation to latest S.M.P.E. standards.

Two Mike Imputs

On the control unit provision is made for two microphone inputs, each with its own fader, and, in addition, a master volume control, the modulation amplitude being read on a meter. Inter-communication facilities are provided by means of a phantom circuit upon the sound cables to the camera, so that the mixer can communicate either with the man on the recording camera or with the cameraman.

The recording camera itself is an exceedingly neat piece of mechanism. This film is fed by a single sprocket, and is smoothed by a fluid-flywheel drum, the hoops being controlled by spring rollers.

Removal Unit

The whole of the recording unit can be removed and easily replaced. A prismatic microscope can be inserted for the purpose of viewing the recording light actually on the film. The oscillograph is a comparatively massive piece of mechanism, with quite a large mirror, carried on knife-edges and vibrated by an armature moving in a small but intense magnetic field. Provision is made for the 6-volt recording lamp to be run at 4 volts until recording actually commences; this provision should enormously extend the life of lamps. A special cap is fitted to each lamp, accurately pre-focused, so that replacement of the lamp is a matter of seconds.

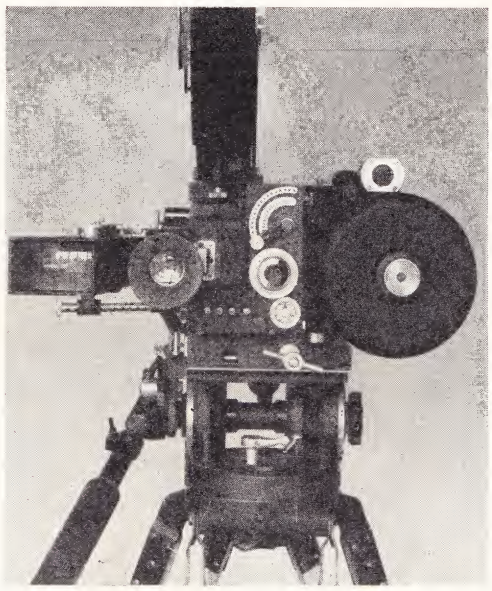
Spares Container

The equipment is finished in grey crackle enamel. A useful feature is that spares are carried in trays below the amplifier and control unit. The whole outfit weighs only 80 lb., and the total power consumption, including lamp and motor, is only 80 watts.

The first outfit which I saw is already on its way to Bombay, and D. Forrester told me that the many other orders for this equipment include a further seven for India, and several for the Continent, in addition to a quota for this country.

A further point of interest is that the recording head can be fitted to any of the more usual picture cameras, enabling the camera to be used for a single-film system. The additional weight of the sound equipment is then only 35 lb.

R. H. C.



General view of the Newall camera

The Mole-Richardson Sound Boom and How it Operates

IT'S common knowledge that a boom operator must have a perfectly clear view of the action on the set, and must be able to place his microphone with precision to synchronise its movements with those of the artists.

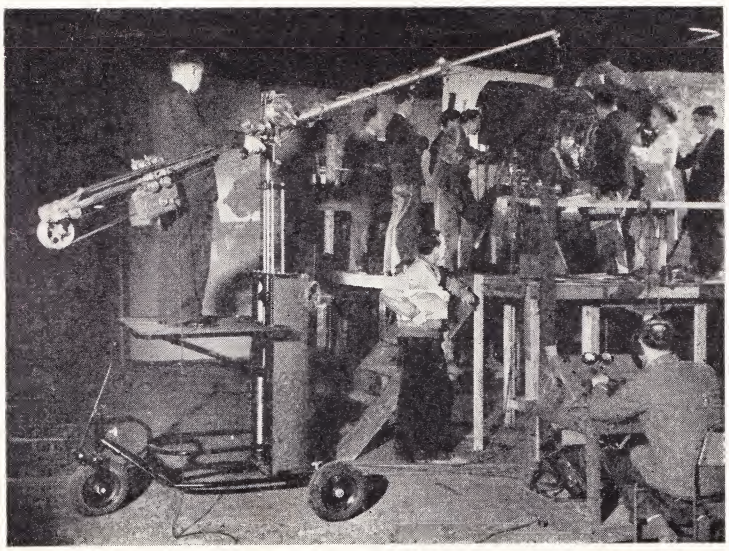
All this, of course, must be done in perfect silence, which presents a pretty problem for the motion picture engineer. This problem has been tackled in an effective manner by Mole-Richardson, and the company's latest boom is M-R Type 103B, mounted on its Perambulator M-R Type 126B.

The telescoping and stationary boom members are all heat-treated Duralumin tubing. All cast fittings are made of Permbrite, one of the recently developed high-strength aluminium alloys. Moving parts operate on rubber rollers of suitable density.

Quietness in operation and light weight have been the main objectives. The movement of the telescoping member is counter-balanced by means of a traversing weight that can be varied by the addition of small lead weights to properly balanced different microphones. All moving parts are mounted on oilless bearings.

As the boom is retracted the microphone cable is received on take-up sheaves. Control is by a crank-operated drum which

Continued on page xlviii



One of the first post-war M-R Type 103B microphone booms in use on a set of the Air Ministry Training Film in production at Merton Park Studios

THE NEWALL CAMERA

Familiarity of Operation

A SECOND look at the Newall camera described in the June Studio Supplement permits reference to certain features which, due to lack of space, had to be omitted from the earlier survey. The general impression received is that any cameraman who has been used to handling the Mitchell could adjust himself to the Newall camera with very little difficulty.

The base and camera body from the two main parts of the camera and each part is a single casting of aluminium alloy. Robustness combined with the utmost precision are the features of the new model. It gives the impression that reliability and long life may be depended upon, and that every refinement and facility which can at the moment be thought of are at the operator's disposal.

Turret Operation

Viewing the scene through the taking lens as he does, the cameraman can set up quickly. The lens does not move again, and the operator photographs exactly what he saw while focusing. He is enabled, too, to take a last moment look by means of the quick shift and so avoid film waste and loss of time. Lenses employed are Taylor-Hobson-Cooke Speed Panchro coated, and the turret in which they are mounted revolves independently of the rising and falling front. Operation of the turret is by quick-acting shift and locking pins. Focal lengths of lenses are 25, 35, 40, 50, 75, and 100 mm. The last-named is a deep field *f*2.5, the others being *f*2.

Shutter Opening

Having a maximum opening of 175 deg. the shutter is arranged for hand-operated dissolves or fades. It is independent of the focusing or viewing aperture, and in consequence there is no necessity to open the shutter during dissolves or for focus-checking. The four-way mattes built inside the camera base are independent of the filter discs, have easily operated controls.

The motor, horizontally mounted in a special sound-proof housing on the right of the camera, acts directly upon the movement which in turn drives the shutter shaft through right-hand helical gears. The shutter-shaft drives a further shaft which carries the sprocket and the magazine take-up pulley. Footage and other counters are also driven by the shutter shaft.

Motors normally supplied are one 220 volt, 3-phase, 50 cycle synchronous motor; and one variable speed motor for location work.

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Secretary: Mary Spencer.
Artists: See Production Facilities.
Technicians: See Independent Producers.

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Assistant to Studio Controller and Personnel Manager: J. R. Wallis.
Scenario Editor: T. C. Morrison.
Cameraman: B. Langley.
Camera Engineer: H. E. Payne.
Sound Supervisor: H. Benson.
Chief Electrician: P. Abbott.
Master Carpenter: A. Ebling.
Master Plasterer: E. Tanner.
Master Painter: H. Kitchen.
Property Master: A. Howe.
Publicity: C. L. Dakers.
Casting Director: R. Lennard.
Editor: Miss F. Newton.
Art Directors: D. W. Daniels and C. H. Gilbert.

Wardrobe Supervisor: Miss A. Duse.

Contract Writers:
Scenario Department under T. J. Morrison.
Writers: Dudley Leslie, J. Lee Thompson, Robert Hall, F. Gotfurt, Walter Summers.

Artists:
Derek Farr, Helen Shingler, Joan Hopkins, Joan Dowling, Stephen Murray, Michael Denison.

BRITISH NATIONAL FILMS

Head Office: National Studios, Boreham Wood, Herts. Telephone: Elstree 1644.

Casting Office: 1, Golden Square, London, W.1. Telephone: Gerard 1676.

Directorate: Sir Henry Richardson (chairman), Lady Yule, G. M. Yule, Louis H. Jackson (Managing Director and Executive Producer).

Executive Producer: L. H. Jackson.
General Production Manager: Fred A. Swann.
Director of Recording: Harold V. King.
Lighting Cameraman: Ernest Palmer.
Lighting Cameraman: James Wilson.
Art Directors: C. Wilfred Arnold and Holmes Paul.
Musical Director: Hans May.
Director of Publicity: Jimmy Hutchison.
Casting Director: Wallace Orton.

Film Directors: Maclean Rogers, John Harlow, Paul Stein, Montgomery Tully, Vernon Sewell and Alfred Travers.
Scenario Editor, Jack Whittingham

Script Writers: Jack Whittingham and James Seymour.
Unit Manager, Bob Asher.
Wardrobe Mistress, Mrs. Tweedy.
Make-up Chief, Henry Hayward.
Chief Hairdresser, A. G. Scott.
Head of Camera Dept., Moray Grant.
Still Cameraman, Frank Buckingham.
Head of Property Dept., Frank Davies

Camera Department:
Gerry Moss, camera operator; Moray Grant, camera operator; Cyril Page, camera operator; Frank Drake, 1st assistant camera; John Dean, 1st assistant camera; Jimmy Warner, 1st assistant camera; Jack Mills, 1st assistant camera; Ron Follett, clappers; Pat Hannen, Clappers; Geoffrey Munn, assistant camera maintenance; and Nap Byers, chief camera maintenance

Sound Department:
Len Shilton, recordist; George Adams, recordist; Cecil Thornton, recordist; Michael Basset, sound cameraman; Cyril Brown, sound cameraman; N. Blackmore, sound cameraman; Eric Bayman, boom; John Moyes, boom; Derrick Swynnerton, assistant boom; Ted Jarvis, assistant boom; Robert Shaw, assistant boom; and Jack Lovelock, maintenance.

Cutting Rooms:
Monica Kimmick, cutting editor; Dan Birt, cutting editor; Eve Catchpole, dubbing editor; Percy Hobbs, librarian.

Projection Rooms:
E. Simmons, chief projectionist.

CINEGUILD

Reg. Office, Canada House, Norfolk Street, W.C.2.

Producers and Directors: Anthony Havelock-Allan, David Lean and Ronald Neame.

Artists: See Production Facilities.

Technicians:
Production Designer, John Bryan.
Production Manager, Norman Spencer.
Lighting Cameraman, Guy Green.
Editor, Jack Harris.
Assistant Director, George Pollock.
Continuity, Miss Margaret Sibley.
Costume Supervisor, Mrs. Furze.

COLUMBIA (BRITISH) PRODUCTIONS

Office: 139, Wardour Street, W.1. Telephone: Gerrard 4321.

Production Office: 13, Wigmore Street, W.1. Telephone: Langham 4571.

Directors: Harry Cohn, Jack Cohn, H. Sydney Wright, G. R. Webb, Max Thorpe, F. G. Hill, Jos. Friedman (Managing Director).
No artists or technicians are on contract as the company reports "No plans to date."

DENHAM STUDIOS

Denham, Middlesex. Telephone: Denham 2345.
Directors: J. Arthur Rank, D.L., J.P. (Chairman), W. H. Cockburn, E. Ronald Crammond, L. W. Farrow, The Right Hon. Lord Grantley, C. W. A. Ray, Spencer M. Reis (Managing Director.).

General Manager, Capt. N. Walker.
Secretary, M. L. Axworthy.
Chief Accountant, T. B. Stalker.

Heads of Departments:
Studio Manager, R. S. Hinchley.
Construction Manager, W. Searle.
Master Carpenter, W. Fulton.
Master Plasterer, A. Banks.
Master Painter, E. Keefe.
Property Master, S. G. Hobbs.
I/c Property Making, G. Smith.
I/c Drapes, L. F. Burdon.
I/c Studio police. M. H. Leadbeater.
I/c Foundry, G. H. Pottle.
I/c Metal Shop, H. Hill.
I/c Estate Department, H. Brown.
I/c Pattern Shop, W. Evans.
Personnel Officer, C. L. Tucker.
Stage Electrical Supervisor, A. C. Batchelor.
Chief Buyer (both D. and P. Studios), W. Quinn.
Chief Transport Manager (both D. and P. Studios), T. Copeman.
I/c Tinsmith Shop, A. Williamson.
Office Manager, A. V. Hall.

Technicians:
Chief Engineer, A. J. Pauley.
I/c Camera Department (both D. and P. studios), A. Easey.
Chief Sound Engineer (both D. and P. studios), C. Crowhurst.
I/c Stills Department (both D. and P. studios), F. Williams.
Chief Projection Mixer, C. C. Stevens.
Chief Dubbing Mixer (D. and P.), D. Dew.
Chief Projectionist, J. Bridgeland.
Maintenance Engineer (Electrical), W. Raynham.
Power House Supervisor, F. W. Benn.
Chief Transmission Engineer, E. Vast.
Mixers, J. Cook, W. Lindop, S. Fischer and J. Mitchell.

EXCELSIOR FILM PROD.

4, Tilney Street, Park Lane, W.1. Telephone: Grosvenor 2446/7.

Directors: Marcel Hellman (Roumanian), Harold French, H. Alan Hawes, F.C.A.

The company, now working at Denham, has no artists or technicians under contract.

EALING STUDIOS

Ealing Green, W.5. Telephone: Ealing 6761 (12 lines).

Directorate: Stephen L. Courtauld, M.C. (Chairman), Reginald P. Baker, F.C.A. (Managing Director), Michael Balcon, Gordon W. G. Rayner, Wing Commander Sir Archibald James, M.C., J.P.

Secretary: Leslie F. Baker, A.C.A.

Associate Producers: O. H. Cornelius, J. Croydon, Col. S. C. Balcon, Michael Relph and S. Cole.

Film Directors: C. Crichton, A. de A. Cavalcanti, C. Frend, R. Hamer, B. Dearden and H. Watt.

General Studio Manager and Production Supervisor: Hal Mason.

Director of Publicity: M. Danischewsky.
Publicity: Pat O'Connor and John Newnham.
Chief Engineer and Sound Supervisor: Eric Williams.
Lighting Cameramen: Douglas Slocombe, Gordon Dines, Lionel Banes and L. Rowson.
Camera Operators: J. Seaholme, J. Parker and H. Britten.
Art Director: Duncan Sutherland.
Assistant Art Directors: J. Morahan and C. Woolveridge.

Scenario Editor: Angus McPhail.
Literary Editor: Stella Jonckheere.
Editors: Michael Truman, Leslie Norman and Charles Hasse.

Writers: John Dighton, T. E. B. Clarke and Michael Pertwee.

Chief Sound Recordist: S. Dalby.

Sound Recordists: A. E. Rudolph and R. Palmer.
Sound Editor: Mary Habberfield.
Chief Stills Department: J. Dooley.
Cutting Room Manager: Mrs. Browne.
Print Manager: E. Aldridge.

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LEADING PRODUCTION UNITS AND STUDIO PERSONNEL—continued

Unit Managers: H. E. H. Hand and Jack Rix.

First Assistant Directors: L. Rudkin and R. Hogg.

Continuity: Phil Crocker.
Chief Make-up: E. Taylor.
Hairdresser: Barbara Barnard.
Wardrobe Supervisor: Marion Horn.
Chief Projectionist: A. Minell.
Artists: See Production Facilities.

THE FILM PRODUCERS' GUILD

Guild House, Upper St. Martin's Lane, Lane, London, W.C.2. Telephone: Temple Bar 5420 (13 lines). Telegrams: Filmicity, London.

Chairman and Joint Managing Director: E. P. L. Pelly. Joint Managing Director: A. T. Burlinson. Director: F. A. Hoare. Secretary: K. Lockhart Smith.

Associates:
Sound-Services, Ltd. Managing director: E. P. L. Pelly.
Verity Films, Ltd. Managing director: A. T. Burlinson.
Greenpark Productions, Ltd. Managing director: Ralph Keene.
Technique Film Productions. Director of production: Ronald H. Riley.
Publicity Films, Ltd. Managing director: Edward Beckett.
Merton Park Studios, Ltd. Managing director: F. A. Hoare.
The Horizon Film Unit. Director of production: Maxwell Munden.

General Production Manager: W. H. Williams.
Studio Manager: A. C. Snowden.
Director of Animation Unit: T. R. Thumwood.
Director of Mobile Cinema Service: F. A. Hoare.
Operating Manager of Mobile Cinema Service: H. S. Hind.
Director of Cinema Distribution (Advertising Films): Edward Beckett.
Manager of Cinema Distribution (Advertising Films): R. Thomson.

Producers:
Edward Beckett, Dan Birt, Reg Groves, F A. Hoare, Ralph Keene, Maxwell Munden, Cecil Musk, E. P. L. Pelly. Harold Purcell, Ronald H. Riley, James E. Rogers, Cossar Turfery, W. H. Williams.

Directors:
Dan Birt, Louise Birt, J. Neill Brown, Erik Cripps, John Eldridge, P. L. Cecil Gurney, A. C. Hammond, Ralph Kenne, Robert H. Lapresle, William Macquitty, Maxwell Munden, Cecil Musk, Harold Purcell, Ronald H. Riley, James E. Rogers, Cossar Turfery.

Production Management:
W. H. Williams, Arnold S. Brettell, Ronald Curtis, A. F. L. Drew, P. D. Kennedy, A. H. Wheeler.

Writers:
F. J. Brown, Jack Common, Reg Groves, W. C. Hardman, Francis King, Graham Murray, Harold Purcell, Cyril Roberts, Arline Rogers, Jack Saward.

Cameramen:
A. T. Dinsdale, Ray Elton, Peter Hennessy, Cyril Jenkins, Robert H. Lapresle, Charles S. Marlborough, Terry Parsons, James E. Rogers, L. C. Rogers, George Still, Alvin Willis.

Editors:
Julian Wintle, C. Beaumont, Carmen de Beliaeff, J. H. Kirby, Cath Miller.

GAINSBOROUGH PICTURES

Studios: Lime Grove, Shepherd's Bush, W.12. Telephone: Shepherd's Bush 1210. Poole Street, Islington, N.1. Telephone: Clerkenwell 1271.

Secretary: A. W. Robinson.
Managing Director and Producer, Sydney Box.
General Manager, Ernest Gartside.
Personal assistant to managing director, F. Bundy.
Scenario Editor, Muriel Box.
In charge of production at Islington, Betty E. Box.

Directors:
Ken Annakin, Compton Bennett, J. Paddy Carstairs, Arthur Crabtree, Harold French, Bernard Knowles and David Macdonald.

Associate Producers:
Dallas Bower and W. D'Eyncourt.

Production Managers:
A. Alcott, F. Gunn, A. Nelson Keys and D. Pierce.

Editors:
Helga Cranston, G. Hales, C. Knott, A. Osbiston, A. Roome and V. Sagovsky.

Lighting Cameramen:
J. Cox, S. Dade, P. Hennesy, C. Knowles and R. Wyer.

Musical Directors:
Louis Levy and Muir Mathieson.

Supervising Art Director:
G. Provis.

Sound Supervisor:
B. C. Sewell.

Publicity Director:
T. Burdon.

Portrait Stills:
E. Reed.

Production Stills:
C. Haines.

Casting:
W. Fleming.

Camera Maintenance:
G. Hill.

Projection and B. P.:
A. Davis.

Research:
Eileen Griffiths.

Title Artist:
L. Urry.

Scenic Artist:
A. Jullion.

Location Managers:
Billy Asher and J. Fitzrussell.

Studio Managers:
L. Kleeman (S.B.), A. C. Darnborough (I).

Art Directors:
M. Carter (S.B.), J. Elphick (I).

Costume Designers:
Elizabeth Haffenden (S.B.), Yvonne Caffin (I).

Make-up:
W. Partleton (S.B.), L. Garde (I).

Hairdressing:
F. Singleman (S.B.), N. Bentley (I).

Chief Electricians:
C. Hillier (S.B.), S. Sargent (I).

Chief Carpenters:
B. Jempson (S.B.), E. Harrison (I).

Chief Plasterers:
A. Knapman (S.B.), G. Lambert (I).

Chief Props:
A. Rumsey (S.B.), T. Fletcher (I).

Chief Painters:
W. Allgar (S.B.), J. Temple (I).

Maintenance:
R. Trumble (S.B.).

Assistant Directors:
W. Boyle, Q. Keating, E. Morris and B. Keys.

Camera Operators:
J. Asher, L. Harris, F. Bassil, T. Hunt, D. Harcourt, D. Lovell and G. Lang.

Sound Recordists:
L. Hammond, M. Hobbs, S. Wiles and A. Rhind.

Still Cameramen:
C. Hale, L. Turner and J. Jay.

Artists:
See Production Facilities.

* *S.B.—Shepherd's Bush.*
I.—Islington.

GEORGE KING PRODUCTIONS

The Manor, Davies Street, W.1. Telephone: Mayfair 4016.
Production Manager, Hal Richmond.
Department Heads:
First Assistant, Terry Hunter.
Second Assistant, Roger Good.
Camera Lighting, Hone Glendinning.
Continuity, Elizabeth Guest.
Operator, — Brury.
Sound Supervisor, Bill Sweeney.
Sound Camera, Aubrey Bower.
Sound Recordist, Allan Allan.
Boom Operator, P. Butcher.
Art Director, Bernard Robinson.
Casting, Eric L'Epine Smith.
Stills, Ronnie Pilgrim.
Wardrobe Mistress, Felix Evans.
Make-up Artist, H. Holly.
Hairdresser, Mrs. Faulkner.
Publicity, "Bill" Sykes.

INDIVIDUAL PICTURES

44-45, Pall Mall, S.W.1. Telephone: Whi. 6361.
Directors: Frank Launder, Sidney Gilliat.
Artists: See Production Facilities.
Technicians: See Independent Producers.

INDEPENDENT PRODUCERS

Registered Office: 127, Wardour Street, London, W.1. Telephone: Gerrard 7311.
Directors: J. Arthur Rank (Chairman), Sidney Gilliat, Anthony Havelock-Allan, Frank Launder, David Lean, Ronald Neame, Michael Powell, Emeric Pressburger (Hungarian).
Managing Director: George Archibald, J.P.
General Manager: Tom White. Assistant: E. Holding.
Secretary: William H. V. Able.
Art Directors:
L. P. Williams, P. Proud, J. Bryan and W. Shingleton.
Assistant Art Directors:
W. Hutchinson, A. Lawson, H. R. Oxley and G. Woodward.
First Assistant Director:
P. Hermes.
Writers:
J. Baines, A. MacKinnon, C. McGivern, D. Neame, B. Quayle, V. Valentine, G. Wellesley, and W. Wilhelm.
Editors:
R. Mills, J. Seabourne, J. Seabourne, Jun., and F. Wilson.
Chief Construction Manager:
H. Batchelor.
Set Dresser:
E. Harvison.
Assistant Producer:
G. Busby.
Production Manager:
N. Spencer.
Make-up Artists:
G. Blackler, E. Carter, S. Freeborn, E. Gasser and U. P. Hutchinson.
Cameramen:
J. Cardiff, C. Challis, W. Cooper, O. N. Morris, E. Stewart, and G. Stretton.
Draughtsmen:
H. Gloag, A. G. Heavens, L. Hoesli, G. Picton, E. E. Scott and E. Hopewell-Ash.
Scenic Artists:
A. Roberts and R. White.
Wig Maker:
Miss F. Williams.

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Registered Office: Denham Laboratories, Denham, Uxbridge, Middx.
146, Piccadilly, London, W.1. Telephone: Mayfair 8272.

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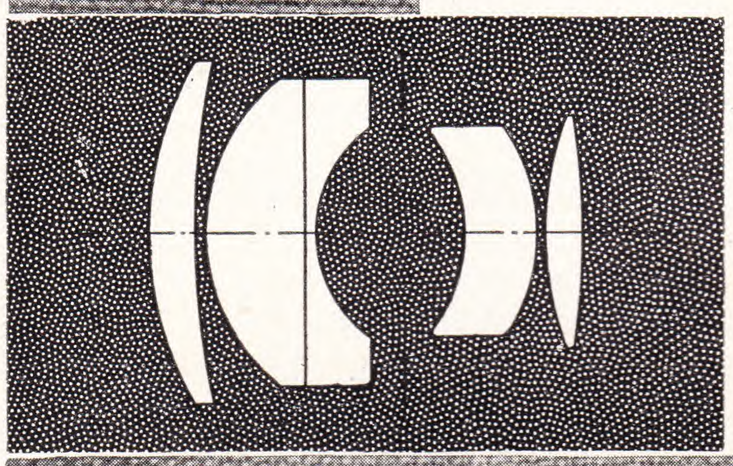

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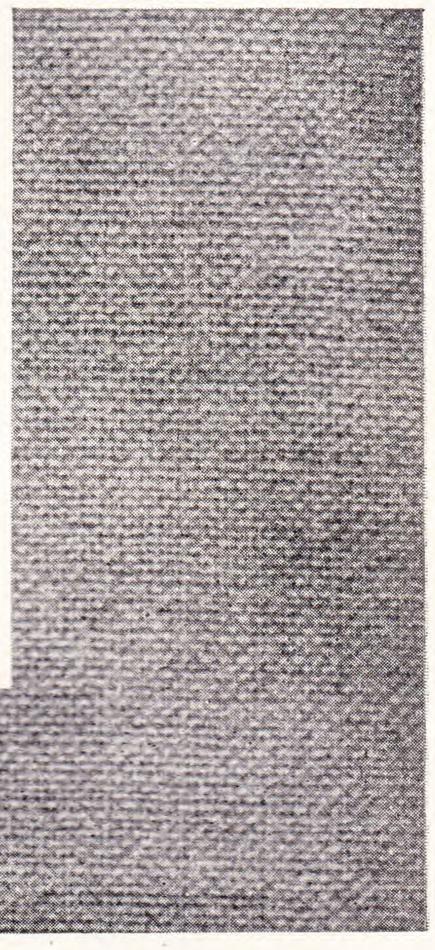

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LEADING PRODUCTION UNITS AND STUDIO PERSONNEL—continued

Directors: Sir Alexander Korda (Chairman) (British, formerly Hungarian), J. C. Jackson, Sir David Cunynghame, Bart., Harold Boxall.

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MERTON PARK STUDIOS

Managing Director, F. A. Hoare.
Director and Studio Manager, A. C. Snowden.
Director of Animation Dept., T. R. Thumwood.
Assistant to Studio Manager, E. Cox.
Chief Recording Engineer, E. Law.
Sound Maintenance Engineer, K. Barber.
Studio Camera Operator, T. R. Walker.
Camera Maintenance, B. Thain.
Art Director, G. Haslam.
Assistant Art Director, S. Shields.
Buyer, Mrs. M. Irving.
Chief Electrical Engineer, R. J. Collard.
Studio Foreman, E. P. Turner.
Property Chargehand, W. A. Dodsworth.
Still Cameraman, T. Healy.
Chief Projectionist, G. Cockett.

NETTLEFOLD STUDIOS

Hurst Grove, Walton-on-Thames. Telephone: Walton-on-Thames 2414-7. Head Office: 22, Soho Square. Telephone: Gerrard 7811.

Proprietors: Executors of Archibald Nettlefold. C. D. Midgeley and W. Hudson.
General Manager, E. G. Roy.
Studio Manager, W. H. Norris.
Construction Manager, Wally Smith.
Master Carpenter, Frank Woodley.
Master Plasterer, Jim O' Reilly.
Master Painter, Ted Dean.
Master Props, Albert Stinson.
Stores Buyer, Roger Ayliffe.
Chief Draughtsman, W. Bennison.
Camera Operator, Arthur Grant.
Focus Puller, Ken Hodges.
Sound Recordist, Tommy Meyers.
Sound Boom Operator, Jack Davies.
Sound Camera Operator, Don Wortham.
Chief Projectionist, E. Malcolm.
Chief Electrician, George Luker.
Wardrobe Department, Molly Arbuthnot.
Sound Maintenance, F. Turtle.
Camera Maintenance, Ron Ford.
Stills Cameraman, Harold Saunders.
And at **Carlton Hill Studios**:
Sound Recordist, C. Parkhouse.
Chief Electrician, George Bull.
Camera Operator, W. Smith.

PINEWOOD STUDIOS

Bucks.
(See Denham for directorate details).

Heads of Departments:
H. G. Coward, Studio Manager.
L. Gerhold, Construction Manager.
F. Holt, Master Carpenter.
W. Bain, Master Plasterer.
A. Mumford, Master Painter.
A. Gaiters, Master Propertyman.
E. Devenish, I/c Drapes.
F. Butler, Chief Floor Electrician.
W. Williams, Studio Maintenance Engineer.
J. Heron, Power House Superintendent.
T. B. Stalker, Chief Accountant.
Z. Harris, Office Manager.
H. Foster, Personnel Officer.

Technicians:
J. Dennis, Chief Production Mixer.
D. P. Field, Chief Transmission Engineer.
S. Lambourne, Sound Mixer.
C. Poulton, Sound Mixer.
G. McCullum, Sound Mixer.
F. Hauser, Consultant Electrical Engineer.
T. Knight, Chief Engineer.
C. Staffel, Chief Projectionist.

PRODUCTION FACILITIES

Denham Studios, Denham, Middlessex.
Telephone: Denham 2345.
Directors: J. Arthur Rank, J.P. (Chairman), F. L. Gilbert (Managing Director), L. W. Farrow, Barrington C. Gain, John Davis, Maurice Ostrer, F. Del Giudice (Italian), G. Archibald, J.P.
Heads of Departments:
David Rawnsley, Director of Research.
Fred Pusey, Principal Assistant Director of Research.
Edward Woods, Head of Stills Department.
Sam Simmons, Head Librarian.
Douglas Woolsey and Henry Harris, Joint Heads of Special Effects Department.
Sid Howe, Back Projection Specialist.
Artists:
George Calderwood, Bonar Colleano, Finlay Currie, Paul Dupuis, Marius Goring, Stewart Granger, Peter Graves, Trevor Howard, Esmond Knight, Barrie Livesey, John McCallum, Eliot Makeham, Moore Marriott, John Mills, Henry Mollison, Peter Murray, Brian Nissen, Shaun Noble, Brefni O'Rorke, Patrick Parsons, Hay Petrie, Eric Portman, Dennis Price, Michael Rennie, David Tomlinson, Anthony Wager, Dermot Walsh, Peter Willes, Michael Redgrave, Phyllis Calvert, Hazel Court, Anne Crawford, Ingrid Forrest, Sally Gray, Greta Gynt, Valerie Hobson, Sonia Holm, Kim Hunter, Rosamund John, Jean Kent, Margaret Lockwood, Pamela Matthews, Zena Marshall, Sandra Martin, Patricia Roc, Kathleen Ryan, Maura Ryan, Jean Simmons, Elizabeth Sydney and Diana Blake.
Ealing Artists:
Derek Bond, June Elvin, Sally Ann Howes, Jean Ireland, Gordon Jackson, Mervyn Johns, Jack Lambert, Barry Letts, Ralph Michael, Frederick Piper, Chips Rafferty, Reginald Tate, Tommy Trinder and Aubrey Woods.
Sydney Box Artists:
Gwen Clerk, Andrew Crawford, Joan Greenwood, John Olsen, Margaret Pepper, Maxwell Reed, Pat Senshaw and Ann Todd.

RIVERSIDE STUDIOS

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Chief Sound Engineer:
G. Burgess.
Recordist:
H. C. Pearson.
Chief Construction:
P. Dukelow.
Full details withheld until new owners have completed production plans.

TWO CITIES FILMS

Temporary address: 3, Portman Chambers, 7/9, Baker Street, W.1. Telephone: Welbeck 5711.
Directors: J. Arthur Rank (Chairman), L. W. Farrow, Barrington C. Gain, A. Galperson (Polish), J. H. Keeling, F. Del Giudice (Italian), Managing Director, Joseph Somlo, John H. Davis.
Film Directors and Producers:
Eric Ambler, Anthony Asquith, Roy Baker, Reginald Beck, John Boulting, Roy Boulting, Jill Craigie, Anatole de Grunwald, Jeffrey Dell, Thorold Dickinson, Brian Desmond Hurst, Bernard Miles, Laurence Olivier, Carol Reed, William Sistrom, Charles Saunders Peter Ustinov, and Terence Young.
Artists:
Sally Gray, Greta Gynt, Ingrid Forrest, and Elizabeth Sydney.

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FIVE YEARS OF WARDROBE "POOL"

IN JULY, 1941 - - - Gainsborough sponsored a scheme for the pooling of film wardrobes.

IN OCTOBER, 1941 - Gainsborough issued the first film wardrobe catalogue. It contained hundreds of photographs of dresses and accessories. The first entry appeared in the accounts book: "One pair of men's pyjamas, Cat. No. G. 297—hire charge 2s. 6d."

IN JULY, 1946 - - - Clothes hired represented a grand total of 92,106 coupons. Some article or other from Gainsborough Pictures appeared in nearly every British feature film since 1942.
But this is not all . .

E.N.S.A. shows, cabaret artistes, the theatre, amateur dramatic societies, Forces' concerts, charity shows, exhibition—all have been helped by "Gainsborough Hire." By July 31st, no fewer than 1,739 brides had gone to the alter in Gainsborough wedding dresses.

ENQUIRIES FOR HIRING:

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NEW PRODUCTION COMPANIES REGISTERED JAN.—AUG., 1946

Ten Companies Each Month Reflect Post-War Boom Hope

THIS index to companies formed since the beginning of the year, which is compiled mainly from information which has appeared week by week in the Finance Section of the "Kine." gives a clear picture of the widespread and increasing interest in film production in this country.

Some of the companies recorded obviously have been established purely for the adjustment of finances: some are already active and have productions in the making.

The aim in compiling this reference feature has been completeness. All useful available information has been included, but where certain facts are obvious, they have been omitted for reasons of space. Thus we have not recorded names of directors, for instance, in cases where their names appear in the title of the company.

From the number of queries received at the "Kine." offices each week, the need for such a list as this is plainly apparent. It is hoped that it will function as a useful "directory" service, and every effort will be made to keep it up to date in the future.

A

ALLIANCE FILM STUDIOS.
Registered: July 26.
Capital: £65,000 in £1 shares.
Solicitors: Slaughter and May, 18, Austin Friars, E.C.

ANGLO-SCOTTISH PICTURES.
Registered: April 18.
Capital: £1,000 in £1 shares.
Directors: Jack F. A. Squire, 6, Kensington Gate, W.8; Bernard Davies, 3, Silver Crescent, W.4.
Solicitors: W. and D. Andrews, Girvan.
Reg. office: Littleton Park, Shepperton, Middlesex.

ANTA FILM PRODUCTIONS.
Registered: February 12.
Capital: £15,000 in £1 shares.
Reg. office: 7-8, Great Winchester Street, E.C.2.

ANTHONY KIMMINS PRODUCTIONS.
Registered: March 15.
Capital: £1,000 in £1 shares.
Directors: Anthony M. Kimmins, Rideway, Littlestone, Kent, author and film producer; Stanley Gorrie, 58, Apsley House, N.W., director of Victor Kinematograph Corporation (London).
Reg. office: 9, Cavendish Square, W.1.

ASSOCIATED SCREEN SERVICE.
Registered: May 4.
Capital: £1,000 in £1 shares.
Directors: Allen A. Stone, 3, Alleyn Road, S.E.21; Norman S. Dunkels, 15, Brick Grove, W.3.
Reg. office: 13, Alleyn Road, S.E.21.

ATLAS FILM PRODUCTIONS.
Registered: July 25.
Capital: £100 in £1 shares.
Reg. office: 26-27, Conduit Street, W.1.

B

BAZE PRODUCTIONS.
Registered: February 19.
Capital: £100 in £1 shares.
Directors: Conrad R. H. Howell, 19, De Walden Street, W.1, chartered accountant; Paul G. Bankart, 39, Devonshire Place, W.1. (director of Harley Property Investment Co. Ltd.).
Solicitor: C. J. C. Davenport, 18, Glenfall Road, Woodford Green.
Reg. office: 8, Staple Inn, W.C.1.

BER FILM.
Registered: July 16.
Capital: £100 in £1 shares.
Solicitors: White and Co., 2, Sackville Street, W.1.
Reg. office: 28, Sackville Street, W.1.

BRAGANZA PICTURE CORPORATION.
Registered: July 17.
Capital: £50,000 in 40,000 10 per cent. redeemable cumulative preference shares of £1 and 200,000 ordinary shares of 1s. each.
Directors: The Hon. Chas. R. Strutt, Terling Place, Chelmsford (director of Colquhoun, Lowson and Co., Ltd.); Harold Huth, East Burnham House, Farnham, Bucks; and John G. Saunders, New Barn Farm, Seegreen, Bucks.
Solicitors: McKenna and Co., S.W.1.
Reg. office: 15, Grape Street, Holborn, W.C.2.

BRITISH LION PRODUCTION ASSETS.
Registered: May 14.
Capital: £50,000 in £1 shares.
Solicitors: Slaughter and May, 18, Austin Friars, E.C.

BURNELL PRODUCTIONS.
Registered: August 2.
Capital: £100 in £1 shares.
Directors: Germain Burger, chairman, 143, St. Margaret's Road, Twickenham, Middlesex; Gordon W. O'Connell, Eisker, Massels Road, Horley, Surrey.
Reg. office: 26-27, D'Arblay Street, W.1.

C

CAMPBELL HARPER FILMS.
Registered: July.
Capital: £15,000 in £1 shares.
Directors: A. J. Harper, film producer; W. M. Fulton, film producer; and J. R. Harper, photographer, all of Edinburgh.

CHARTRES PRODUCTIONS.
Registered: May 9.
Capital: £800 in £1 shares.
Solicitors: Stanley Jarratt and Co., 17, Shaftesbury Avenue, W.1.

CINE INDUSTRIAL PRODUCTIONS.
Registered: February 21.
Capital: £12,000 in 12,000 shares of £1 each.
Directors: Ronald E. Pilgrim, 96, Ashford Road, Iver Heath, Bucks; Terence P. Matthews, 110, Ashford Road, Iver Heath, Bucks; Francis J. Ridsdale, Westlands, West Byfleet, Surrey.
Solicitor: F. J. Ridsdale.
Reg. office: 23-6, Cursitor Street, E.C.4.

COMPANY OF YOUTH.
Registered: March 21.
Capital: £100 in £1 shares.
Directors: Sydney Box, film producer, Muriel V. Box, author, and Betty E. Taylor, film producer, all of 37, Maitland Court, W.2.; Compton Bennett, 5, Suffolk House, Queen's Drive, W.2, film director; Nora M. Roberts, South Lodge, W.5, casting director.
Reg. office: Cromwell House, 134-136, Cromwell Road, S.W.7.

CONDOR FILM PRODUCTIONS.
Registered: March 5.
Capital: £1,000 in 1,000 £1 shares.
Directors: Richard Grey, 60, Jermyn Street, S.W.1, film producer; Harry Goodman, Woodlands, Adam's Hill, Derby Road, Nottingham, furniture manufacturer.
Solicitors: David Morris and Co., E.C.4.
Reg. office: 12, Duke Street, S.W.1.

CORONET FILMS.
Registered: August 1.
Capital: £100 in 100 shares of £1 each.
Directors: Mark Rubens and Gordon C. Middleton-Trimm, Cromwell House, 134-6, Cromwell Road, S.W.7.

COSMOPOLITAN ENTERTAINMENTS (BRIGHTON).
Registered: February 21.
Capital: £100 in 100 shares of £1 each.
Directors: Reginald H. Cave, Links Edge, Wolsey Close, Kingston-on-Thames (director of Geo. S. Elliott and Son, Ltd., and Francis Harris Bros., Ltd.); Alfred J. Harding, 10, Hook Rise, Tolworth, Surrey (director of Small Gears, Ltd.).
Reg. office: 1, Guildhall Chambers, 31-4, Basinghall Street, E.C.2.

COUNTY FILMS
Registered: February 12.
Capital: £1,000 in £1 shares.
Directors: Alfred P. Barralet, 16, Orchard Drive, Edgware, film producer (director of Paul Barralet Productions, Ltd.); Thos. A. Glover, 16, Hunter House, Hunter Street, W.C.1, kinematographer.
Reg. office: 26-27, D'Arblay Street, W.1.

CRUSADER PRODUCTIONS
Registered: July 15.
Capital: £1,000 in £1 shares.
Reg. office: Canada House, Norfolk Street, W.C.2.

Continued on page xlix

HAND FILM SPLICERS

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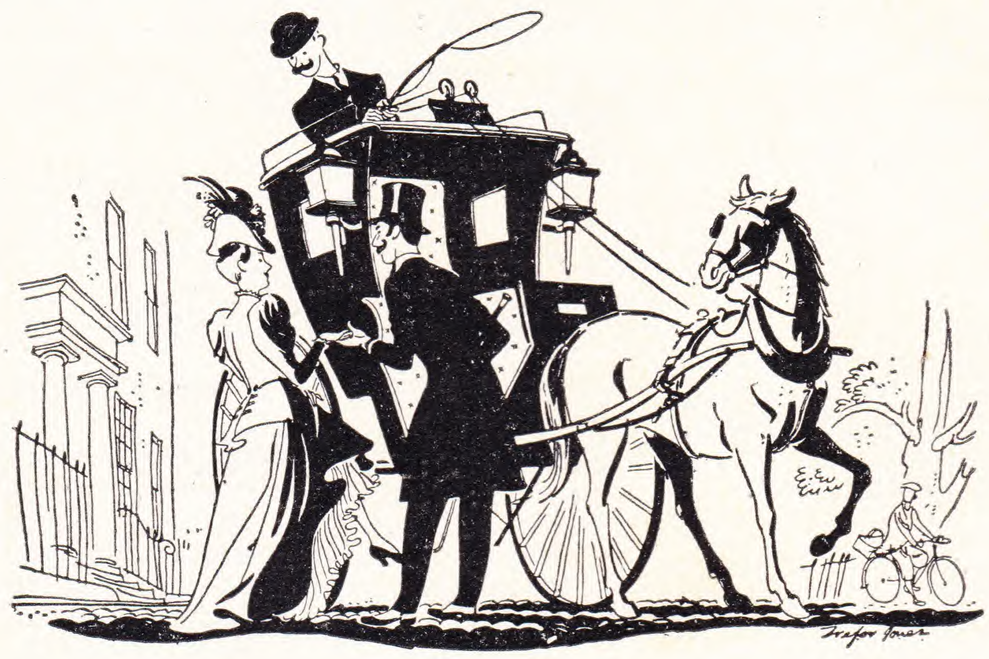

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Find it necessary to announce that their entire present output is fully booked for some time to come, but subject to the present difficulties with the supply of materials and labour, plans are well advanced to increase production when a further announcement will be made.

Meantime they much appreciate the numerous and valued enquiries they have received.

MOLE RICHARDSON SOUND BOOM

Continued from page xxxix

governs extension and retraction, and by a lever actuated rail which controls elevation, depression and traverse. The telescopic action is effected through a specially developed flax cord having a breaking strength of 300 pounds.

Gunning Device

Most microphones are directional and require facing. This boom incorporates a "microphone gunning device" which revolves the microphone through 280 deg. by the rotation of the rail previously mentioned.

This is its radius: Retracted—7 ft. 4½in. Extended—17 ft.

The weight is: Boom with gunning device—66¾ lb. Counterweight—19½ lb., to which nine 1¾ lb. each lead weights may be added.

The perambulator M-R Type 126B chassis frame is of steel tubing held in bronze fittings. Wheels are pressed steel drop-rim type mounting 14 in. diameter 3 in. smooth tread pneumatic tyres, and roll on ball bearings. The steering wheel swivels 180 deg. and may be clamped to hold a given radius. The tiller, when pushed back, operates a toggle brake on the steering wheel. This is also fitted with steps, which allow the operator to mount the platform when it is in an elevated position.

For use on rough ground, and to give greater height should this be necessary, 20-in. by 3-in. rubber-tyred wheels may be attached. This enables the boom to be raised to a clear height of 10 ft.

The elevating column, operated by means of a hand wheel which actuates a screw through a bevelled gear drive, may be elevated to raise the boom to a clear height of 9 ft. 5 in. and lowered to a clearance of 6 ft. 5 in. The telescoping tube is braced with three struts, two of which function to raise the operating platform. The supporting column has been designed to afford the required rigidity and yet allow the use of a narrow wheel tread.

Adjustable Tread

In order that the perambulator might be passed through a 30 in. door, provision has been made for narrowing the tread to a clearance of 27 in. The operating platform has leaf portions which may be dropped when narrow clearance is desired.

The perambulator weighs 421 lb.

The operator is mounted on a platform, which may be adjusted to suit his stature or individual requirements and is raised with the boom to a height convenient to the "set." He has at all times a clear view of the action.

All controls may be operated simultaneously to effect elevation, depression, or panning, while extending or retracting the boom to follow the movement of artists, at the same time rotating the microphone to favour individual sources of sound.

The perambulator is suited for difficult "tracking" shots.

Continued from page xlvii

D

DOLPHIN FILM PRODUCTIONS.
Registered: March 1.
Capital: £100 in £1 shares.
Directors: Jack Kennedy, 22, Kenneth Crescent, N.W.2 (director of S. and I. Varieties, Ltd.); Harry Gordon, 602, Grenville House, Dolphin Square, S.W.1, film producer; and Rita Gordon, 602, Grenville House, Dolphin Square, S.W.1, associate film producer.
Solicitors: Tarlo Lyons and Co., The Manor, Davies Street, W.1.
Reg. office: The Manor, Davies Street, W.1.

DORIC FILMS.
Registered: May.
Capital: £100 in £1 shares.
Directors: Anthony J. Skene, 5, Fairfax Road, N.W.3; Joseph H. Mendoza, 83, Ladbroke Road, W.11.
Solicitors: J. Mayorcas, 17, Shaftesbury Avenue, W.1.
Reg. office: 17, Shaftesbury Avenue, W.1.

DOUKNOW FILMS.
Registered: March 22.
Capital: £1,000 in 1,000 shares of £1 each.
Directors: Cecil H. Williamson, Ash Manor, Ash, nr. Sevenoaks; Edwin J. Fancey, St. Brides, 14, Mill Road, West Worthing.
Solicitors: Booth and Blackwell, 3-4, Berners Street, W.1.
Reg. office: 4, Berners Street, W.1.

DUNCAN ENTERTAINMENTS.
Registered: January 11.
Capital: £100 in 100 shares of £1 each.
Directors: Hy. John Duncan, 63, Booth Road, Colindale, N.W.9; Hy. James Duncan, 20, Saunders Road, Plumstead, S.E.
Reg. office: 20, Roscommon Street, Liverpool 2.

E

ELSTREE INDEPENDENT FILMS.
Registered: May 24.
Capital: £100 in £1 shares.
Directors: John Baxter, "Aldavhu," Beaconsfield Road, Elstree, Herts; B. C. Baxter, 34, Albion Road, Stoke Newington, N.16.

EMPRESS FILMS.
Registered: May 15.
Capital: £1,000 in £1 shares.
Directors: Emeric Pressburger, 16, Green Lane, N.W.4, author and film producer; Stanley Gorrie, 58, Apsley House, Finchley Road, N.W., director of Victor Animatograph Corporation (London), Ltd.
Reg. office: 9, Cavendish Square, W.1.

EUROPA FILMS.
Registered: July 12.
Capital: £4,000 in £1 shares.
Directors: John New, Stoatley Copse, Farnham Lane, Haslemere, Surrey (chairman); Mrs. Violet B. C. New, same address; and Chas. B. Heath, Wellington House, Princes Risborough, Bucks.
Reg. office: Stoatley Copse, Farnham Lane, Haslemere, Surrey.

F

FANFARE FILMS
Registered: April 23.
Capital: £100 in £1 shares.
Directors: Peter Ustinov, 32, William Mews, Knightsbridge, S.W.1; Jack C. Wilson, 6a, George Street, Richmond.

FILMETTES (DISTRIBUTION).
Registered: March 9.
Capital: £10,000 in 10,000 ordinary shares of £1 each.
Solicitors: Denton, Hall and Burgin, 3, Gray's Inn Place, W.C.1

FORUM FILMS.
Registered: August 2.
Capital: £100 in £1 shares.
Directors: Dudley D. C. Giddins, Rayne House, Rayne, Essex (director of Peak Films and Productions, Ltd.); and Andre Hakin, Brown's Hotel, Dover Street, W.1, film producer.
Solicitors: Crawley and de Reya, 1, Hanover Square, W.1.
Reg. office: Fenton House, 112-114, Fenchurch Street, E.C.3.

FOSTER FILMS.
Registered: April 15.
Capital: £100 in £1 shares.
Directors: Robert V. Foster and Dora Foster, both of 53, Leith Mansions, Grantully Road, W.9.
Reg. office: 150, Southampton Row, W.C.1.

FUTURE—THE FILMED CHRONICLE OF THE NEW AGE.
Registered: January 9.
Capital: £100 in 100 shares of £1 each.
Directors: Albert E. Carac, 7, St. James Street, S.W.1, film editor; Wm. de Lane-Lea, 35, Heath Hurst Road, N.W.3, engineer; Richard E. Heinz, 60, Rue St. Lazare, Paris, film director; Jack Raymond, 5, Hodford Road, N.W.11, film director.
Solicitors: White and Co., 28, Sackville Street, W.1.
Reg. office: 28, Sackville Street, W.1.

G

GORAS SCANNON EIREANN TEORANTA (IRISH FILM ENTERPRISES).
Registered in Dublin: April 16.
Capital: £7,000 in £1 shares.
Solicitor: James A. Kelly, 34, Upper O'Connell Street, Dublin.

GORDON KYLE PRODUCTIONS.
Registered: May 7.
Capital: £1,000 in £1 shares.
Directors: Wm. G. H. Kyle and Nora Kyle, both of Long Acre, Windlesham, Surrey; Hy. C. James, 10, Karridale Mansions, Tottenham Court Road, W.
Solicitors: Groos, Guest and Co., W.1.
Reg. office: 5-6, Prince's Street, W.1.

GRAHAM MURRAY.
Registered: April 8.
Capital: £100 in 100 shares of £1 each.
Directors: J. Graham Murray, 105, Barkiston Gardens, S.W.5; C. Turferly, 6, Cavendish Drive, Canons Park, Edgware.
Reg. office: 87, Bishopsgate, E.C.2.

H I J K

HIBERNIA PICTURES.
Registered in Dublin: February 25.
Capital: £5,000 in 5,000 shares of £1 each.
Directors: Desmond Egan, Roger Greene and Michael Scott (addresses not stated).

HOLBEIN FILMS.
Registered: January 25.
Capital: £100 in 100 shares of £1.
Reg. office, 134-136, Cromwell Road, S.W.7.

INSTRUCTIONAL ENTERTAINMENT FILMS.
Registered: April 26.
Capital: £3,500 in 3,000 preference shares of £1 and 10,000 ordinary shares of 1s. each.
Directors: Wm. H. Duckworth, 3, Dr. Johnson's Buildings, The Temple, W.C.2; Arthur H. Swinson, 26, Woodstock Road, St. Albans, Herts.
Reg. office: Farleigh House, Lawrence Lane, E.C.2.

JOHN WATT PRODUCTIONS
Registered: April 29.
Capital: £1,000 in £1 shares.
Directors: John E. Watt, 1, Blenheim Road, St. John's Wood, N.W.6; Harry Blue, 36a, Park Village East, N.W.1.
Reg. office: 12, Whitehall, S.W.1.

JUVENILE FILM PRODUCTIONS.
Registered: July 25.
Capital: £1,000 in £1 shares.
Directors: Clifford T. Devereaux, 189, Fordwych Road, Cricklewood, N.W.2; Wallace Beswick, 14, Feltham Avenue, East Molesey, Surrey.
Reg. office: Rex Mervyn Direction, Suite 3, Cecil House, 41, Charing Cross Road, W.C.2.

KEYSTONE FILM PRODUCTIONS.
Registered: March 21.
Capital: £100 in £1 shares.
Directors: Edward G. Whiting, film producer; Blossom A. Whiting, both of 18, Buckingham Court, Watford Way, Hendon.
Solicitor: J. Mayorcas, 17, Shaftesbury Avenue, W.1.
Reg. office: 17, Shaftesbury Avenue, W.1.

KINSMAN PICTURE CORPORATION.
Registered: February 11.
Capital: £100 in £1 shares.
Solicitors: Slaughter and May, 18, Austin Friars, E.C.2.

L M N O

LAURENCE OLIVIER PRODUCTIONS
Registered: March 20.
Capital: £100 in 100 shares of £1 each.
Solicitors: Walter Burgis and Co., S.W.1.

MARYLEBONE FILM STUDIOS
Registered: April 15.
Capital: £3,000 in £1 shares.
Reg. office: 27, Fitzroy Square, W.1.

MERCIA FILM PRODUCTIONS.
Registered: May 9.
Capital: £2,000 in £1 shares.
Director: Carlisle L. Mounteney.

NEW TEACHING.
Registered: May 3.
Capital: £1,000 in 900 preference shares of £1 and 2,000 ordinary shares of 1s.
Directors: Derek Carter, Island House, Taggs Island, Hampton Court, film director; Raymond David, N.R.D., 16, Embassy Court, Surbiton, designer; Geo. Low, Yew Tree Cottage, Clee St. Margaret, Craven Arms, Salop, designer.
Solicitors: Garton and Co., 9, Cavendish Square, W.1.

NICHOLAS VONDAS PRODUCTIONS.
Registered: July 31.
Capital: 10,000 in £1 shares.
Directors: Nicholas Vondas, 128, Court Lane, Dulwich, S.E.21; Rene D. de Marigny, 54, St. Stephen's Road, Hounslow, Middlesex; Angela R. Mattinson, Cottage Pastures, Etton, Beverley, Yorks.
Reg. office: 33, Queen's House, Leicester Square, W.C.2.

P Q

PEAK FILMS AND PRODUCTIONS.
Registered: February 22.
Capital: £100 in £1 shares.
Solicitors: Crawley and De Reya, 1, Hanover Square, W.1.

Continued on page l

Continued from page xlix

PHOTO-UNION.
Registered: February 15.
Capital: £10,000 in 10,000 shares of £1 each.
Director: Ethelred J. Straker.
Solicitors: Rowe and Maw, Amberley House, Norfolk Street, W.C.2.
Reg. office: 12, Soho Square, W.1.

PICTORIAL EDUCATION CENTRE.
Registered: August 1.
Capital: £1,000 in £1 shares.
Directors: Elizabeth Murray, 57, The Avenue, Ealing, W.; Edward V. Weller, 171, High Street, Egham, corporate accountant. Secretary: R. Langdon.
Solicitors: Laurance Collins and Fearnley-Whittingstall, Sardinia House, 52, Lincoln's Inn Fields, W.C.2.
Reg. office: Sardinia House, 52, Lincoln's Inn Fields, W.C.2.

POST-WAR PRODUCTIONS.
Registered: February 15.
Capital: £10,000 in 10,000 shares of £1 each.
Solicitors: Last, Riches and Co., 19, Cadogan Gardens, S.W.3.

PRIMROSE PICTURES.
Registered: March 25.
Capital: £1,000 in £1 shares.

PRODUCERS' REPRESENTATIONS.
Registered: May 2.
Capital: £100 in £1 shares.
Reg. office: 9, Clarges Street, W.1.

PRODUCTION HOLDINGS.
Registered: July 3.
Capital: £50,000 in 40,000 "A" ordinary shares of £1 and 80,000 "B" ordinary shares of 2s. 6d. each.
Directors: Sydney L. Bernstein, Cecil G. Bernstein and others to be appointed by the subscribers.
Solicitors: Sydney Morse and Co., Alder House, Aldersgate Street, E.C.1.

R

R.G. FILM PRODUCTIONS.
Registered: May 1.
Capital: £1,000.
Directors: Raymond N. R. Getteman, Flat 2, 17, Weymouth Mews, W.1, film producer; Richd. C. Fisher, Flat "A," 101, Marylebone High Street, W.1, author; Patrick B. Elsworth, Vron, Wellwood Drive, Dinas Powis, Glam., accountant.
Reg. Office: 3, Albemarle Street, W.1.

REGENT FILM CORPORATION.
Registered: January 10.
Capital: £1,000 in 1,000 ordinary shares of £1 each.
Solicitor: Burnett L. Elman, 27, Lincoln's Inn Fields, W.C.

RIVERSEND.
Registered: June 20.
Capital: £500 in £1 shares.
Directors: Michael Powell, 2, Ilchester Place, W.14, film producer, and Emeric I. Pressburger (Hungarian), 16, Green Lane, Hendon, N.W.4, author.
Reg. Office: 9, Cavendish Square, W.1.

RUBENS FILMS.
Registered: August 2.
Capital: £100 in £1 shares.
Director: G. C. Middleton-Trimm.
Reg. Office: Cromwell House, 134-6, Cromwell Road, S.W.7.

S

SCANNAIN BAILE ATHA CLIATH (DUBLIN FILMS) TEORANTA.
Registered: In Dublin June 1.
Capital: £100 in £1 shares.

SCREENTEST.
Registered, April 17.
Capital: £7,310 in 6,000 preferred "A" shares of £1, 3,000 preferred "B" shares of 5s., and 11,200 deferred shares of 1s. each.
Directors: Thos. Payne, 42, Dean Street, W.1; Norman A. G. Elwes, 42, Dean Street, W.1, film production managers; George Provis, 10, Sunbury Gardens, Mill Hill, N.W.
Solicitors: Sanders and Co., 32, Savile Row, W.1.
Reg. Office: 42, Dean Street, W.1.

SELECT CLASSIC PRODUCTIONS.
Registered: July 15.
Capital: £1,000 in 500 "A" and 500 "B" shares of £1 each.
Directors: Arthur J. Gale, J.P. (chairman), 9, North Drive, Streatham Park, S.W.; Paul Bloch, 49, Furscroft, George Street, W.1.; Bertram H. Hyams, 61, Jermyn Street, S.W.1; James A. Wilson, 87, The High, Streatham, S.W.16.
Solicitors: Harris, Chetham and Co., 6, Stratford Place, W.1.
Reg. Office: Eros House, Lower Regent Street, S.W.1.

SELWOOD PRODUCTIONS.
Registered: July 19.
Capital: £1,000 in 1,000 shares of £1 each.
Directors: Ralph Keene (permanent), 1, Selwood Place, S.W.7; Albert J. Sturgeon, 96, Maycross Avenue, Morden, Surrey.
Reg. Office: 1, Selwood Place, S.W.7.

SIGNAL FILMS.
Registered: June 26.
Capital: £20,000 in £1 shares.
Solicitors: Waltons and Co., 101, Leadenhall Street, E.C.3.

STAGE AND SCREEN PRODUCTIONS.
Registered: August 2.
Capital: £100 in £1 shares.
Directors: Emeric Weissberger White (Czechoslovak), 177 Brompton Road, S W.3, and Warwick J. Lovell, 19, Tolmers Road, Cuffley, Herts (director of Whitton and Co. (Insurance Brokers), Ltd.).
Solicitors: Bartlett and Gluckstein, 199, Piccadilly, W.1.
Reg. Office: 177, Brompton Road, S.W.3.

STAR FILM CO.
Registered: July 11.
Capital: £100 in £1 shares.
Reg. Office: 8, Clarges Street, W.1.

SYDNEY BOX FILMS.
Registered: July 3.
Capital: £100 in £1 shares.

SYDNEY BOX PICTURES.
Registered: July 3.
Capital: £100 in £1 shares.
Reg. Office: 22, Charing Cross Road, W.C.2.

T

TEMPEST PRODUCTIONS.
Registered: March 15.
Capital: £1,000 in 1,000 ordinary shares of £1 each.
Directors: Wm. P. Lipscombe, 28, Park Crescent, W.1, author and film producer; Stanley Gorrie, 58, Apsley House, N.W., director of Victor Cinematograph Corporation (London), Ltd.
Reg. office: 9, Cavendish Square, W.1.

TIMES FILM CO.
Registered: March 11.
Capital: £20,000 in £1 shares.
Directors: Corry W. Fennell, "Waverley," Chester Road, Sandiway, Cheshire, director of Times Theatres, Ltd., etc.; S. Seeman, "Harven," Hothfield, Kent, director of Capital and Provincial News Theatres, Ltd.
Reg. office: 3, Stanley Street, Liverpool, 1.

R. J. TOMSON.
Registered: March 14.
Capital: £5,000 in £1 shares.
Directors: Chas. B. Bryant, 15, Mt. Carmel Chambers, W.8, director of Carlton Catering; Randolph J. Tomson, 32, Vandon Court, Petty France, S.W.1, film producer.
Reg. office: 2-5, Old Bond Street, W.1.

TRANS-WORLD FILMS.
Registered: July 22.
Capital: £100 in £1 shares.
Directors: Harold W. Collinson, director of Stahl Pyramid Films, Ltd.; Kenneth A. Collinson, both of 9, Elgin Court, W.9.
Reg. office: 130, Wardour Street, W.1.

TRAVELTALKS (GREAT BRITAIN).
Registered: May 2.
Capital: £100 in £1 shares.
Directors: Gordon A. A. Heynes, C.A., of Western Down, Guildown Road, Guildford.
Reg. office: 40, Pall Mall, S.W.1.

TULLOCHS FILM SERVICE
Registered in Edinburgh: March 19.
Capital: £100 in 100 shares of £1 each.
Directors: James S. Tulloch, 63, Ravenscliffe Drive, Giffnock, Renfrewshire, mechanical and electrical engineer; Mrs. Jane C. Tullock, same address.
Reg. office: 63, Ravenscliffe Drive, Giffnock, Glasgow.

U V W

UNIT ONE.
Registered: May 21.
Capital: £100 in £1 shares.
Directors: Cyril J. Clarke, managing director, Great Rissington, Gloucester; Frederick J. Brown, 42, Rawlings Street, S.W.3; Brian G. Feeney, The George Hotel, Slough.
Solicitors: Croft and Russell, Maxwell House, Arundel Street, W.C.2.
Reg. office: 42, Rawlings Street, Chelsea, S.W.3.

UNIVERSAL STAR PRODUCTIONS.
Registered: March 5.
Capital: £1,000 in £1 shares.
Directors: Patrick M. Ulyatt, 9, St. Saviours Road, St. Leonards, director of Industrial and Trade Advertisers, Ltd., and Success Magazine, Ltd.; Nicholas J. Collis-Bird. Ednick Lodge, Holt, Norfolk, director of above two companies; Ronald I. Gould, 11a, Clifton Park, Bristol, 8; Wilfred G. Jones, 179, Cheltenham Road, Bristol, 6, director of Industrial and Trade Advisers, Ltd.; Geo. E. Hill, 7, Trafalgar Studios, Manresa Road, S.W.3.
Reg. office: 66, Queensway, W.2.

VICANDRO.
Registered: March 4.
Capital: £3,500 in £1 shares.
Solicitors: M. A. Jacobs and Sons, 55-58, Pall Mall, S.W.1.

WESSEX FILM PRODUCTIONS.
Registered: April 8.
Capital: £100 in £1 shares.
Directors: Ian M. Dalrymple, chairman and permanent director, The Manor, Bourton-on-the-Water, Gloucester; Wm. R. James, Selbourne, 43, Alexandra Road, Epsom, Surrey.
Reg. office: 87, Bishopsgate, E.C.2.

R. HOWARD CRICKS REVIEWS

NEW PRODUCTION TECHNIQUE

G.E.C. MERCURY LIGHTS: AGFACOLOR

A DEVELOPMENT of the high-pressure discharge lamp that may eventually oust the arc lamp from the studio was demonstrated to me recently at the G.E.C. Research Laboratories, Wembley; I am indebted to A. G. Penny and W. R. Stevens for the invitation. The serious objections to previous types of mercury lamps seem to have been almost entirely overcome; 2½ kw., 5 kw. and 10 kw. lamps have already undergone exhaustive tests—J. B. S. Smyth, of the Research Laboratories showed me a Technicolor film in which these light sources were used—while lamps of larger sizes still are in the experimental stage and in their light output will exceed the capacity of the arc lamp.

The difficulties encountered in the development of these lamps and the manner in which they have been overcome are best illustrated by a review of the history during the past 20 years of the mercury discharge lamp, as outlined to me and my colleague J. Benson, by E. H. Nelson. It is perhaps invidious to mention names as the G.E.C. has a considerable team of scientists working on this development, so the few I managed to talk to told me about their colleagues' work as well as about their own problems.

Early Experiments

The first discharge lamps of modern type to be made were the 400-watt tubular mercury lamps and the 140-watt sodium lamp, both used extensively for street lighting. The former differed from the old Cooper-Hewitt tubes chiefly in working at a gas pressure of about one atmosphere, instead of a comparatively low pressure; a very hard glass, harder than Pyrex had to be invented to withstand the temperature; efficiency was much increased, to about 45 lumens per watt.

The lamp consists of a tube containing the mercury—very precisely measured in filling—and the electrodes, both coated with emitting material to facilitate striking; this inner tube is enclosed within an evacuated outer tube, the vacuum serving to keep up the temperature of the inner tube.

Attempts were made to construct similar lamps in smaller sizes; but it was found that as the wattage was reduced so the efficiency went down almost *pro rata*, until the lamp showed little advantage over the tungsten filament lamp.

Investigation proved that efficiency was fixed by the watts (not amperes) dissipated per centimetre length of discharge—in other words, a reduction in arc length raised the efficiency only provided the voltage was kept constant. In order to raise the electrical resistance and so permit of the voltage remaining constant, it was necessary to increase the gas pressure in the discharge; this at the same time increased the working temperature.

Quartz Substituted for Pyrex

Unfortunately the limit of working temperature of the glass bulb seemed to have been already reached with lamps of the former types. If further progress was to be made, it was essential to find a material that would withstand considerably high temperatures. Such a material is, of course, quartz, which has a melting point of about 2,000 deg. C., and will thus withstand far higher temperatures than glass; on the other hand, by reason of its refractory nature it is exceedingly difficult to work.

However, researches were conducted, and the first result was the 125-watt discharge lamp, which is already familiar. Later a similar lamp was made in the 80-watt size.

From here there were two lines of progress. In the one direction the small tube of the last-mentioned type of lamp could be made still smaller, and caused to work at a still higher pressure (up to 100 atmospheres), producing the capillary type of lamp—and exceedingly efficient light source, but one which has three main defects: that it needs a high voltage, that it needs water cooling, and the shape of the source is not suitable for many optical systems.

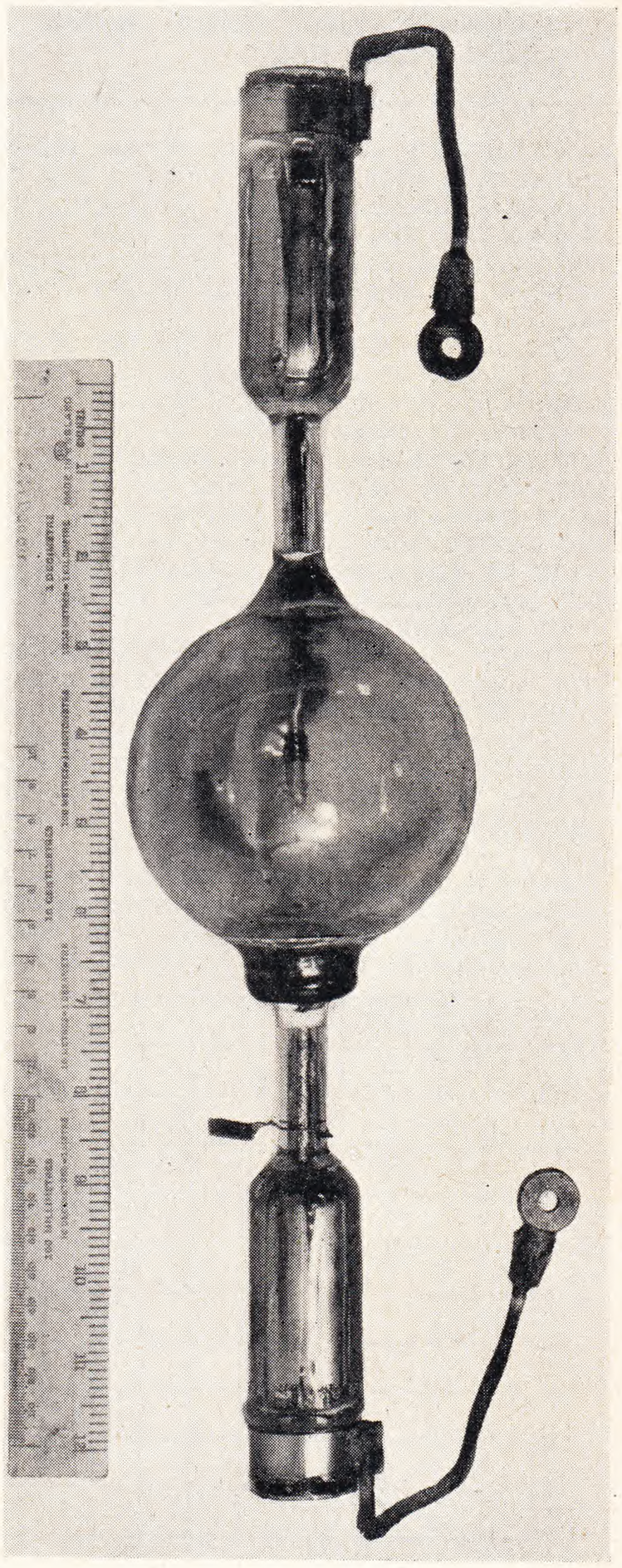
The Compact Source Lamp

The second line of development, and the one upon which G.E.C. has concentrated, is the so-called compact source lamp, in which the discharge takes an almost spherical form between two tungsten electrodes. As with former types, one or both of the electrodes is coated with an emitting material to assist in striking, and the electrodes, together with a tiny drop of mercury—measured in milligrammes—are contained in a quartz bulb, made spherical so as to have the maximum strength. In the smaller sizes this is again contained in an evacuated glass bulb, but in the larger sizes this is not necessary.

The Sealing Problem

The use of quartz had, however, introduced a serious difficulty which was much intensified as soon as it was sought to construct lamps carrying higher current; the problem of seals. The essential of an air-tight seal is that metal and glass shall have approximately the same co-efficient of expansion. In the case of hard glasses, this

(*Continued on page* 272.)



The foot rule indicates the relative size of the experimental mercury-cadmium 10-kw compact source lamp made by G.E.C. and described in this article

During the last twelve months, studio electricians have been taking an increasing interest in the possibilities of high-pressure discharge lamp types. Nettlefold studios led the way and had prototypes of a B.T.-H. mercury vapour lamp in use on "The Crowthers of Bankdam" sets. Pinewood is experimenting with a new G.E.C. type, and its consultant electrical engineer, F. Hauser, reports good progress. In this introduction to the British Studio Section's technical pages, a "Kine." expert, R. Howard Cricks, reviews progress on the G.E.C. high-pressure discharge systems.

Cricks also reviews the possibilities of the commercial use of Agfacolor—one of the most discussed technical topics inside British studios during 1946.

requirement is met by the metals molybdenum and tungsten. But quartz has an expansion co-efficient only one-tenth that of glass and there is no known metal showing so little expansion, except, possibly, Invar, which in any case has too low a melting point.

The solution was found in the use of thin foils instead of wires. The amount of expansion in the thickness of the foil is insufficient to cause trouble in the quartz, and by this means a seal equal to that in glass can be obtained. The smaller types of quartz lamps have, therefore, this thin foil welded into the pinch of the bulb, while for larger sizes a number of strips of foil, actually oval in section, are used to carry the higher current.

Having reached this stage of development, the difficulties in the way of producing larger and larger lamps were purely practical. Quartz is exceedingly difficult stuff to work and there are very few men sufficiently skilled to produce the bulbs. All the special materials required are in short supply and extremely costly. For these reasons it seems unlikely that the compact source lamp can ever be made inexpensively.

It should be mentioned that these lamps are capable of running on either A.C. or D.C. For the former both electrodes are identical, while for D.C. the anode—corresponding to the positive carbon in an arc lamp—needs to be made very much heavier than the cathode, in the larger models consisting of a large—and costly—block of tungsten.

Maintaining Colour Range

There remained one point vital for the applications of the lamp in our Industry; the colour of the light. A discharge lamp, unlike a filament or arc lamp, has, of course, a line spectrum and the principal mercury lines in the visible spectrum are at 4047Å in the violet, 4358Å in the blue, 5461Å in the green, 5770Å and 5791Å in the yellow; there is a marked shortage of red.

Other materials—neon, cadmium and zinc—are, of course, capable of producing red rays, but owing to the difference in ionisation voltage for neon and vapour pressure for cadmium and zinc it had been found that it was not possible to cause such materials to contribute much, if any, to the light output when mixed with mercury under low or medium pressure conditions.

However, as the working pressure increased so it was found that the red lines of added cadmium or zinc became more and more prominent. The result is shown in the spectograms reproduced and can be even more clearly seen in examining the light through a spectroscope. The red line of cadmium and zinc are not quite identical, but either is sufficiently strong to compensate for the excess yellow green of the mercury.

Examining samples of coloured materials under the various lights, one can see that plain mercury completely degrades the red but enhances yellows. Neither mercury-zinc nor mercury-cadmium reproduces yellow particularly well, while the former tends to turn blue into a violet tint; either reproduces red quite satisfactorily.

It is important here to realise that the colour rendering of these lamps as seen by the eye is very different from what the colour film "sees." Obviously in a studio it is the effect upon the film which is all important. This has been studied with the assistance of George Gunn, of Technicolor, and I saw some extracts from film shots taken by E. Hague.

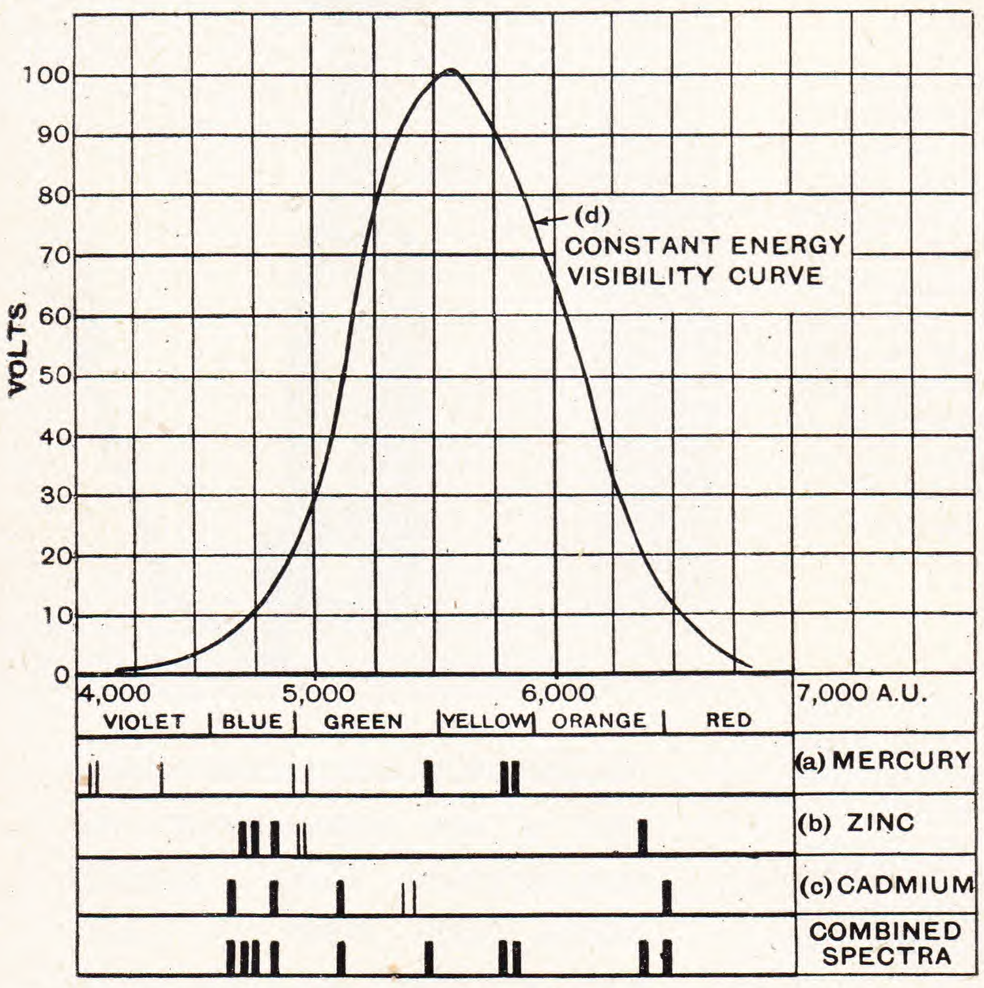
The light from the discharge lamps was compared with that of a 150-amp. arc, first on split-screen tests of colour charts (with and without Y filters) and then on a close-up of a girl handling coloured materials.

The first series of tests, showing the results on a colour chart of the two lamps, side by side on the screen, showed certain differences in colour rendering, chiefly in the red and yellow of the spectrum; but in the case of the girl, where main lighting was by the arc and shadow lighting by the discharge lamp, it was quite impossible to distinguish any difference between the colour rendering.

It is certain in any case that any difference there may be between the two is far less than the adjustment in rendering that can be effected in the Technicolor processing.

In addition, there were some very interesting shots of colour and neutral density charts comparing individual compact source lamps against the arc. It was explained that the point of these tests was to determine

(*Continued on page* 294)



Above: visibility curve of the eye Below: line spectra of mercury, cadmium and zinc with combined spectrum

A COLOUR PROCESS WHICH MAY RIVAL TECHNICOLOR

FOR a long time past the Industry has appreciated the need for an effective rival colour process to Technicolor. To say this is not in any way to criticise Technicolor; but the system suffers from the limitations that processing of negatives, rushes, editing copies, and release prints can be carried out only in the Technicolor laboratories, and these laboratories, although equal in size to the two largest black-and-white laboratories put together, have proved to be quite inadequate to cope with the ever-increasing demands for colour. Dr. Kalmus himself has stated that a healthy competitive system would be to the general good.

The only process which shows any immediate prospects of providing competition with Technicolor is Agfacolor, or its American counterpart Anscocolor. As we have seen, this process at its best is capable of really first-class results. It is common knowledge that for the past year or more the B.F.P.A. has been keenly interested in the possibilities of the Agfacolor process; Ilford and Gevaert have been studying it closely.

The adoption of the process bristles with difficulties, legal, commercial, theoretical, and practical. On the patent situation I am not competent to comment; it will be recalled that some months ago the KINE. stated that a Swiss holding company had been formed which owned certain basic patents in the process, so that, although licences of right can be obtained on the German patents, enabling any company of standing to work the process in this country, as soon as prints were exported difficulties could be anticipated. However, one cannot picture the holders of the patents adopting a dog-in-the-manger attitude, which could have the effect merely of immobilising the process.

Some Muddy Results

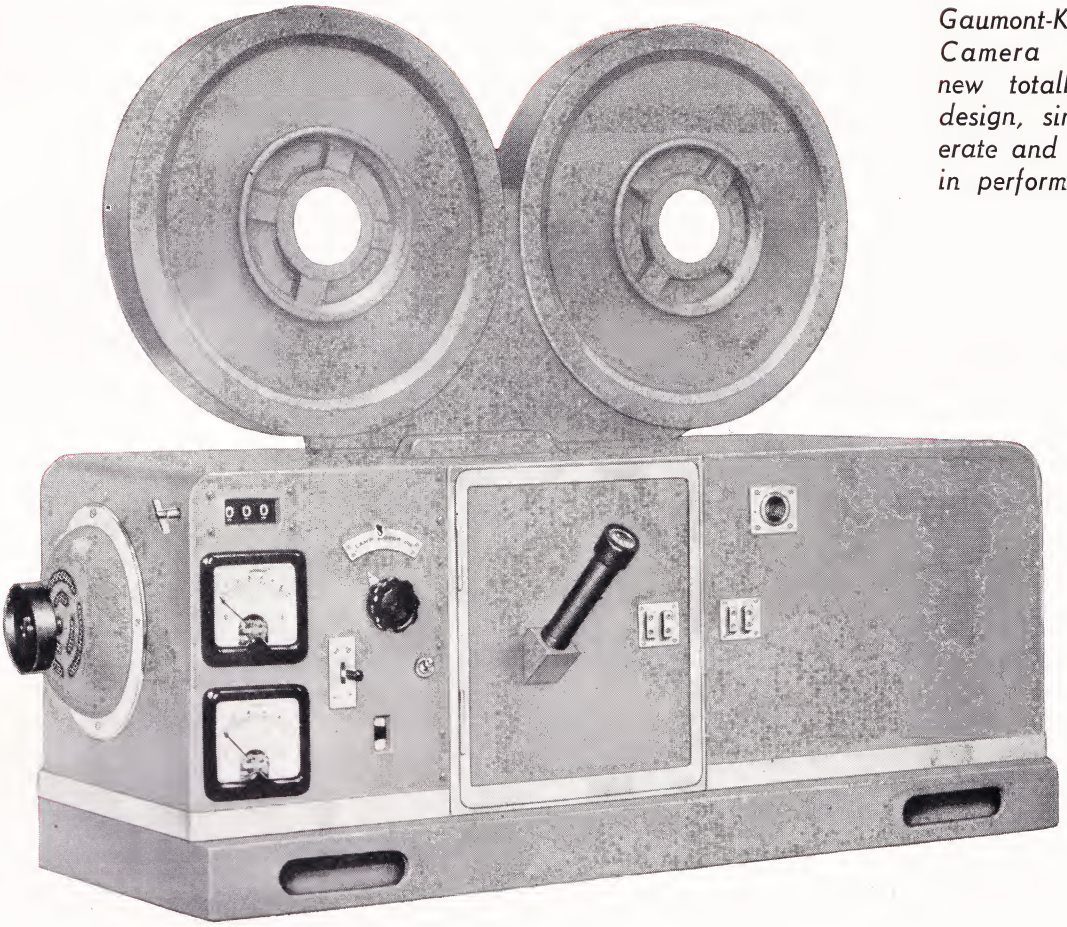
The great value of the process commercially is that, as was demonstrated in Germany, it can be handled by any suitably equipped laboratory. But a word of warning is called for; while some of the films we have seen have been of really outstanding quality, others have been quite unacceptable, showing muddy and degraded colours. The difference is, I am assured, the result of processing in different laboratories; it demonstrates that the difference from lab. to lab. is enormously greater than is conceivable with black-and-white.

Complete details of the German process have appeared in two of the B.I.O.S. reports on German industry, one by W. M. Harcourt, of Denham Laboratories, the other by technicians of the U.S.N.R. The vital part of the latter is in German, but a translation appears in a recent issue of the *B.K.S. Journal*. In the *Proceedings of the B.K.S. Film Production Division*, Jack Coote gave some valuable information on the system.

First of all, the stock is similar to Kodachrome in being of the "integral tripack" type. In both systems the base carried five layers; the difference is in the constitution of these layers. In the case of Kodachrome, the colour-forming materials are all contained in the baths, and differently coloured layers are produced by differential process-

(*Continued on page* 292)

The new



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RESEARCH OVERCOMES SENSITOMETRIC PROBLEMS IN THE LABORATORIES

Practical Advantages Gained by Use of Time-Scale Sensitometer

THE practical importance in the laboratory of a complication which has hitherto been regarded merely as a research problem formed the subject of a paper given to the B.K.S. on November 13 by G. S. Moore, M.Sc., A.Inst.P., F.R.P.S., of Ilford, Ltd.

Mr. Moore's paper was devoted chiefly to the practical implications of reciprocity failure in the sensitometric control of processing of the new fine-grain stocks.

The problem arose, said Mr. Moore, when Ilford introduced its fine-grain release positive, and had found it necessary to point out that its characteristics relative to Eastman 1302 would be different when determined by means of the Eastman type IIB sensitometer. On the printer, these two stocks were a much closer match in speed and contrast than indicated by tests on the IIB; this resulted from testing the materials on a time-scale sensitometer, whereas on the printer the emulsions were exposed to a range of intensities for a constant time. The differences in the behaviour of the two films were due to differences in the extent to which they showed reciprocity failure.

Principles of the Sensitometer

The speaker first described briefly the principles of the IIB sensitometer. Either of two light sources was used: a tungsten lamp used with a filter to raise its colour temperature to 5,400 deg. K., a close approximation to "international sunlight," and having a light emission of 0.75 metre-candle, this lamp being used for negative work; while for positive a lamp which, with its filter, gave a colour temperature of 3,000 deg. K. was used, having an emission of 27 metre-candles.

Varied Exposure

Exposure may be varied in sensitometers either by means of a neutral wedge, when the instrument is known as an intensity scale instrument, or by varying the time factor. The earliest example of the latter was the Hurter and Driffield sector wheel, consisting of nine angular openings, each double the size of the preceding one, so that when it is rotated at constant speed the material receives exposures in ratios of 1, 2, 4, 8, etc., to a constant intensity of light.

The Eastman type IIB instrument is an example of a time-scale instrument. In this machine, exposure is controlled by means of a cylindrical shutter, driven at constant speed, with a series of 21 apertures increasing in ratios of $\sqrt{2}$. The maximum time of exposure is 5 seconds, and the minimum 1/200 second.

Reciprocity Failure

It is immaterial whether a time-scale or intensity-scale is used, provided a certain amount of light energy always produces the same photographic effect, no matter whether obtained with a weak intensity or light acting for a long time, or with a higher intensity of light for a correspondingly shorter time, which is the assumption of the so-called *reciprocity law*. According to this law, equal values of light energy, measured by the product of intensity and time, falling on a photographic emulsion will always produce equal densities regardless of the absolute level of intensity at which the exposures are made.

In general, photographic materials do not obey this law, and their failure to do so is known as *reciprocity failure*. Fig. 2 (on p. 293) indicates that a fine-grain emulsion is considerably faster with a longer exposure, and is also more contrasty, the gammas being respectively 2.7 at 2 seconds and 2.4 at 1/50th second.

By making a series of intensity-scale exposures at a range of exposure times and plotting the resultant characteristic curves, we can obtain the reciprocity curves of the material, which are usually represented by plotting the log-exposure values against the log-intensity values for given values of density. The speaker showed a series of curves demonstrating that for fine-grain positive the reciprocity failure was least in the region of log $I = 0.5$, with an exposure time of about 2 seconds for a density of 1.0. With higher or lower values of intensity the exposure is less efficient in producing density, and higher values of log $I.t$ are required to produce a given density. Above this mean point the gamma of the time-scale is greater than the gamma of an intensity-scale, while at lower intensities the reverse is the case.

Fine-Grain Differences

A further series of curves demonstrated the differences in this respect between Ilford and Eastman stock. Over the range of intensities corresponding to times of exposure of 1/50th second to 20 seconds for a density of 1.0, the Ilford film shows less reciprocity failure, but its reciprocity failure becomes much greater than for the Eastman film for lower values of intensity. When exposed on the IIB sensitometer Ilford and Eastman films show marked differences; the Ilford film, in addition to being slower than the Eastman, has a lower gamma of about 2.4, as compared with 2.8 for Eastman. On an intensity-scale exposure at 1/50th second, the two films have the same speed at a density of 1.0, but the Ilford film has a slightly higher gamma. The latter is a close approximation to the characteristics of the film when exposed on a printer.

Time-Scale Advantages

Comparing the two types of sensitometers, the speaker thought the time-scale instrument had important practical advantages, in needing a much lower intensity of light, in ease of specification and precision of construction. For development control by means of sensitometric strips the time-scale instrument offers no disadvantages. Different manufacturers' materials may, however, require to be developed to different IIB control gammas to achieve the same degree of contrast in practice. The time-scale instrument cannot be relied upon to give practical indications of the relative speed of different makers' materials, although the difference between the products of the same maker can be adequately determined.

Mr. Moore concluded his paper by reference to the print-through gamma strip used by some laboratories, consisting of a three-density wedge and a portrait. Three frames of this are attached to the beginning of the negative and printed at a given light change, and are used to control print quality, the IIB sensitometer being used for bath control.

Points from the Discussion

The discussion was mainly devoted to practical aspects of the reciprocity failure problem. I. D. Wratten, the chairman, confirmed that the print-through gamma strip was originated in the United States for the precise reason of reciprocity failure inherent in fine-grain materials.

Replying to L. H. Bacon, Mr. Moore stated that the reciprocity failure was not confined to fine-grain materials, but was as great in fast negative emulsions.

Harry Waxman raised several points con-

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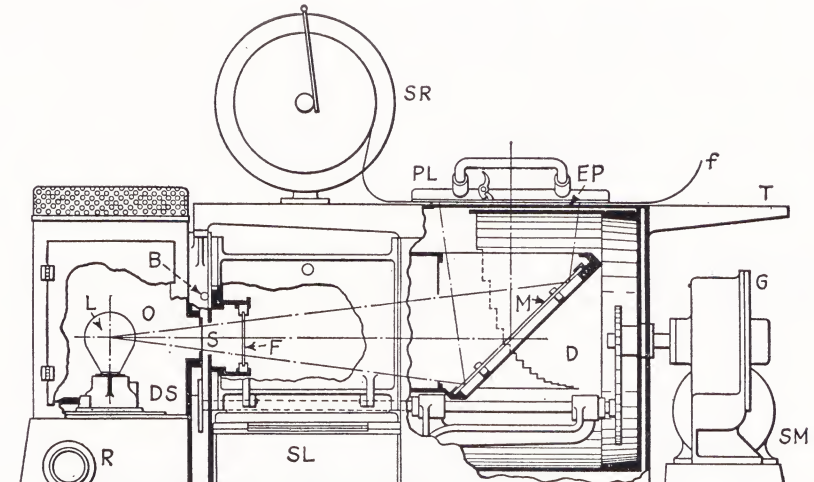

Fig. 1. Construction of Eastman IIB sensitometer, L lamp. F filter to modify light to desired quality. M inclined mirror. EP exposure plane. S Shutter, operated by button B. Exposure drum D is driven by synchronous motor SM

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TELEVISION DEVELOPS INTO VITAL ALLY OF FILM PRODUCTION

THE production Industry is at the cross-roads. Some executives are comparing winter 1946-7 with the months preceding the discovery of sound. New equipment, new technique are being thrashed out in the research laboratories—and behind it all the open sesame of a new era, television.

A lot of nonsense has been said—and written—about what television can do now, and may do in the future. So much has been said about it that all too often one overlooks the facts.

Television will play a major part in the film business sooner or later. It is a scientific discovery which even the B.B.C. will not be able to monopolise for ever. How soon the film business can go ahead with its television plans depends on what Parliament says when the B.B.C. Charter comes up for revision next year.

And the film business has very definite plans to adapt television, both to speed up production and as a subsidiary means of entertainment.

A. G. D. West, head of Rank's Cinema-Television company, speaking in New York in July of last year, said: "Eight hundred Gaumont and Odeon kinemas will be equipped with television shortly."

Rank: "Tests in 1947"

Arthur Rank told Odeon shareholders in October, 1945, that Odeon, through Cinema-Television, was pressing ahead rapidly on research. And in October Rank told Cinema-Television shareholders that tests with studio television programmes, relayed to his kinemas, will start within 12 months.

David Rawnsley, head of Arthur Rank's Central Research organisation, admitted when I saw him some weeks ago that plans were well ahead to put television to use in the studios.

Meanwhile, the research department of every radio firm in the country is trying to solve one problem: to produce a television viewing screen, or a television projector which will give a picture comparable in size and quality to a standard kinema picture.

Although experiments are being kept a closely guarded secret, reliable reports indicate that it is now a matter of a few months before large-screen television becomes a practical proposition. When it comes, one thing which will hold up the film business will be—a licence.

One studio, not allied to the Rank group, is being used by a large radio firm as a film television experimental ground: the law allows "experiments" to be conducted, but does not allow television to be used "commercially." First experiments are to make use of television as a means of broadcasting the rushes from the laboratories to the studio and televise from sound stages to cutting-rooms.

That is a start which may lead to what Rawnsley described as the time when "we produce films exclusively for televising to the homes, or put on live television shows from the studios to kinemas on some kind of rental basis."

B.B.C. Needs Films

The fact that films will be needed for televising is pretty obvious. The B.B.C., operating for a few hours a day to a limited public, is finding the use of films imperative. Hence the present clash with the film producers.

Philip Dorte, B.B.C. Television outside broadcast man, told the KINE. in June of this year: "We shall produce films if the Trade refuses to let us have pictures." If the B.B.C. does that, Alexander Palace will be as much a part of the film business as Denham and Pinewood.

But the B.B.C. could not deny that television to-day is as much in its infancy as was the motion picture projector when Thomas Edison was bringing in the nickel with his Kinetoscope.

20 ft. × 15 ft. Screens

A. G. D. West summed up modern television when he wrote for the KINE. in August of last year, following his trip to the U.S. He said that it would take five years to master television. Scanning for kinema work needed to be 1,000 lines—the B.B.C. was working on 405 and the U.S. on 525. New Yorkers had 3,000 sets in their homes, London 15,000. He had seen U.S. television, a projector type, on a 22 in. by 16 in. screen.

At that time West revealed that a Rank unit was in final experimental stages in the Rauland Works, Chicago, which had a 15 ft. by 12 ft. screen. In February of this year, Rank announced officially that his Cinema-Television company (merged with the highly organised Bush Radio set-up in June, 1945) had made a deal with the U.S. Rauland company.

Rauland, working on Baird patents, was reported in February to have developed large-screen television to 20 ft. by 15 ft. size at 30-ft. throw.

American film men, not restricted by laws governing the use of television by private enterprise, have forged ahead in the use of television—but have not found it big box-office.

In August last year, KINE. correspondents were the first to announce Hollywood plans for televising. Paramount, with interests in the DuMont laboratories and U.S. Scophony, was claiming to be first with television. Ralph B. Sustrian, RKO television boss, stated that RKO had television material set for production with 25 scripts sold to advertisers. Company expected to be first with RCA gear. In February, Paramount, through the DuMont laboratories, entered patents for a tele-film projector, said to cost between one and two thousand pounds per projector.

W. H. Mooring, the KINE.'s West Coast correspondent, reported earlier this year that 20 companies were clamouring for telecasting sites on Mount Wilson. U.S. Government allocated a permit to Paramount on guarantee of 28 hours' broadcasting per week.

Not Commercial Yet

But in the U.S., as in England, it all boils down to two facts—home broadcasting is non-commercial until transmission distances have been mastered; and kinema television demands a satisfactory large screen. Neither are commercial possibilities to-day; but they may be to-morrow. Research men already have hopes of adapting the radio frequency modulation system to television to step up casting distances, and of improving on the pre-war method of increasing cathod-ray tube voltages to provide a sufficiently bright picture for large-screen projection.

It is because kinema television may be with us to-morrow that producers are putting pressure on the Government now. First stage in the controversy was when the B.F.P.A. appointed Arthur Rank, Sir Alex Korda, H. G. Boxall, and Robert Clarke to talk over the matter in January of this year.

The late Ministry of Information had set up the Government's Television Advisory Committee in November, 1945; but it was the news that the B.B.C. would screen the Victory Parade to some 300,000 viewers which really speeded up the issue. An R.E.P. committee was called for June.

The Trade met the Television Advisory Committee in September and said bluntly: "We want the right to use television commercially."

The reply from chairman G. M. Garron-Jones: "The development of television will not be at the cost of the legitimate interests of the Trade."

Rank's statement makes it pretty obvious that film people are not satisfied with present arrangements. It's a delicate position. On its satisfactory conclusion depends the whole future of the British film Industry and television.

"SOME people say that I am a monopolist. Our group is the larger slice of the British film Industry; but we have eight U.S. competitors. You can't have a monopoly when you have competitors.

"But there is a monopoly in the broadcast programmes of the B.B.C. These people would like to have a monopoly of the programmes which they televise to the home and to the kinemas.

"I am opposed to this and so is the British film Industry.

"The B.B.C. will not get co-operation from the British film Industry unless it allows private enterprise to televise—when larger screens are available—to our kinemas."—Arthur Rank, speaking to members of the Radio Industries Club in October.

In this article, a KINE. correspondent surveys the television field, analysing the progress which has been made to date and reporting on current plans to harness television for studio work.

REVIEWS OF THE NEW NEWALL CAMERA AND G.B. RECORDER

Two artistically produced brochures are being issued to film-producing companies at home and abroad by G.B.-Kalee, one illustrating and describing in detail the newly developed Newall motion picture camera, the other the Gaumont-Kalee sound-recording system.

Both these valuable introductions have been described in the Studio Supplement to the KINE. published on September 26. The brochures with more at their disposal and a greater area upon which to illustrate the various parts of the apparatus are able to convey the qualities of both in greater detail.

The brochure of the Newall camera is the larger, consisting of 32 pages in a semi-stiff board cover, showing the camera from different angles, with close-ups of the more important parts, such as those controlling film movement, turret and lens set-up, shutter operation, matters and filters and footage counters with a table of weights of parts and cases.

The sound recorder brochure has half the number of pages of the camera brochure, but as regards text and illustrations it is equally informative, and the manner in which operation has been simplified and improved will intrigue users of recording apparatus everywhere. In designing the recorder the grace of form has been given attention, the job being handsome as well as efficient.

METHODS OF ELECTRICALLY CORRECTING ACOUSTICS IN STUDIOS

Filter Circuits Designed to Give Control of Three Ranges of Frequencies

The problem of acoustical correction of studios is one which it has been sought to solve in many different ways, since it became necessary to employ recorders for adding sound to film. The French Sopra studios have adapted a method of electric correction invented by B. Roux.

PAPERS in two recent issues of "Technique Cinématographique" describe in some detail a valuable method of controlling studio acoustics by electrical means. The principle used is the familiar one of echo chambers—small rooms with a high reverberation period; part of the speech current from the microphone is diverted to feed a loudspeaker, the reverberation being picked up by another microphone, and mixed in with the original sound.

A feature of the system is the use of a number of filter circuits giving a control of three frequency ranges, low, medium and high, in both the direct and reverberant sound. A point of novelty is the control system, which permits of adjusting these three frequency bands while maintaining constant the total relation between direct and reverberant sound.

The problem to be solved consists in providing a separate adjustment of the three ranges, V_G, V_M, and V_A, while maintaining the condition :—

$$a = \frac{V_G + m\,V_M + V_A}{E} = \text{constant}$$

which must be satisfied no matter what the position of the adjustments (m is an empirical co-efficient indicating the relative importance of the middle band in relation to the bass and treble bands).

Actually it may be assumed that the medium wave-band V_M need never be set at zero, even though it may be as much as 20db. below the other bands. In this condition it will suffice to have two controls only to regulate the three signals.

The type of circuit employed is shown in Fig. 1. In the bass and treble circuits are placed the attenuators A_1 and A_3, coupled respectively with the series attenuators A_4, A_5. In the mid-frequency band is the fixed attenuator A_2. The coupled attenuators work in opposite sense, thus a reduction in attenuation of the bass frequencies represented by the difference between the adjustments of A_1 and A_4 produces an increase in attenuation of the mid and treble bands.

In practice the two frequency controls are brought out to pointers on two dials, as shown in Fig. 2, the position of which, it is suggested, indicates approximately the form of the resultant output curve.

Experience shows, however, that if the sum of the direct and reverberant signals is constant, one is conscious of an attenuation when the adjustments are central, as compared with other positions. In order to obtain a level physiological result, it is necessary that the sum of the signals, when the controls are in the mid position, should be higher than at either end of the adjustments.

The lay-out of the equipment is indicated in Fig. 3. In order to obtain a closer control of the sound perspective of a room or studio the single echo chamber may be replaced by several such chambers, the outputs from which may be combined so as to give a very elastic control.

A great advantage of the electric system of reverberation control is that it permits an instantaneous change from, for instance, an open-air shot to a small room, or from a cellar to a cathedral. Noises may also be more conveniently mixed in by means of it.

The equipment has recently been installed in the studios of the Société Sopra, with the support of the French Ministry of Information; it should be of value in studying matters of electro-acoustics and reverberation.

R. H. C.

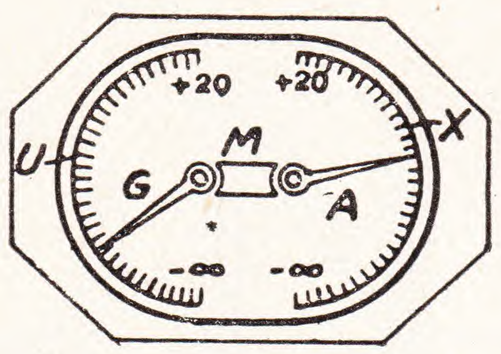

Fig. 2

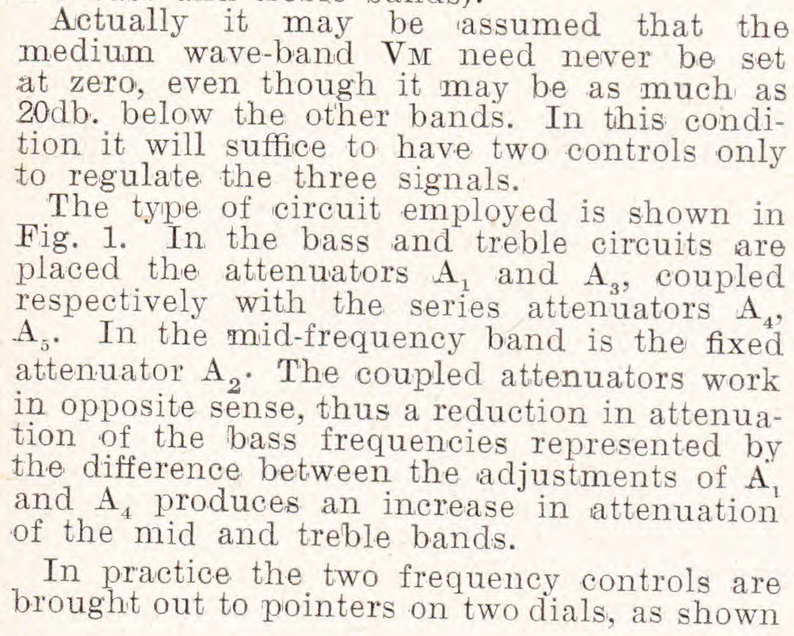

Fig. 1

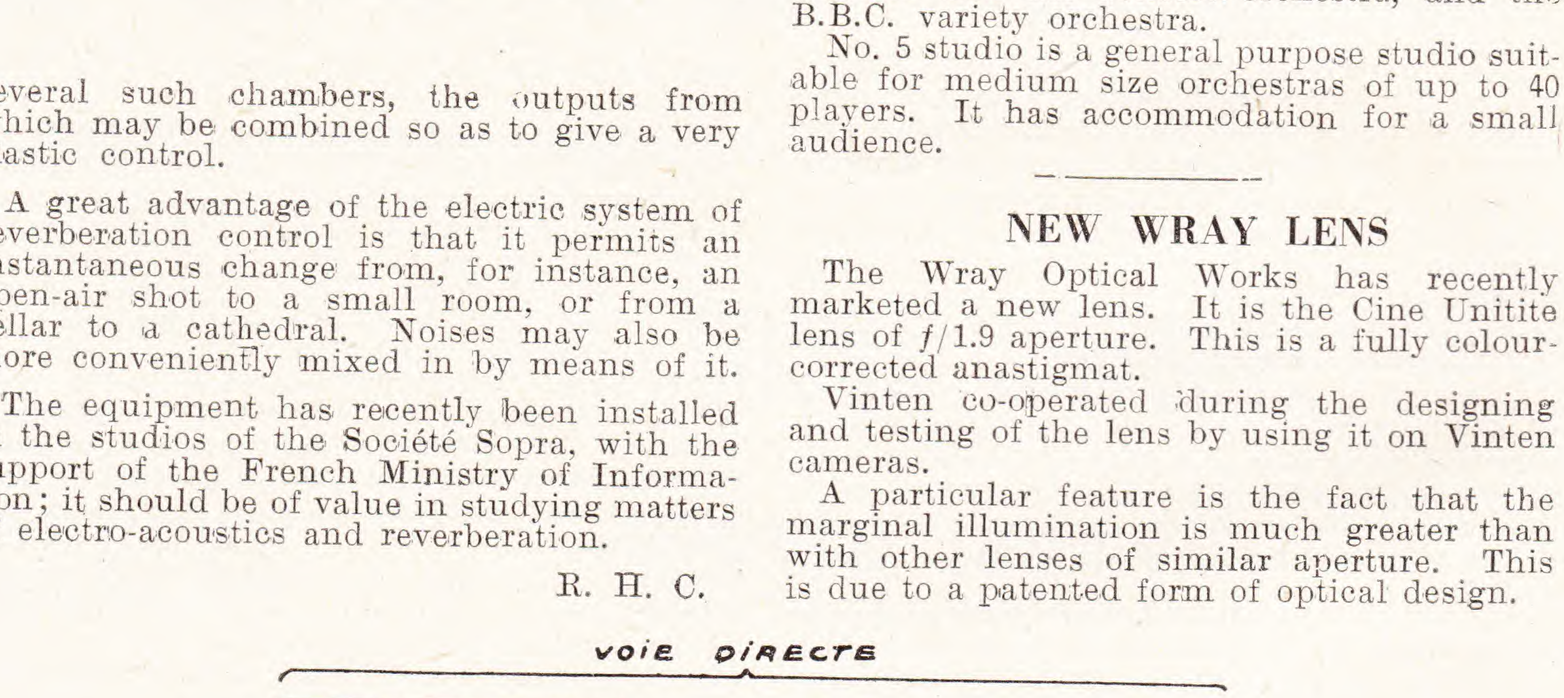

Fig. 3

SIX STUDIOS FOR DISC RECORDING

EXTENSIVELY used for B.B.C. recording and direct broadcasts, the series of sound recording studios operated by Star Sound Studios offers a comprehensive service for high-fidelity sound-on-discs recording.

Six studios, located within a mile of Oxford Circus, are available. These are suitable for a wide variety of purposes ranging from the recording of a single voice to the recording of a full symphony orchestra. Each studio is completely self-contained but can be operated in conjunction with any one or all of the others if necessary.

Recording equipment includes seven disc recording machines, five of which are capable of cutting up to 17½ in. discs at both 78 and 33 1/3 R.P.M.

Three control and recording rooms each feed two of these machines, and in any one of these rooms duplicate, single or continuous recording may be undertaken as required. Each control room can handle the output from any studio in the network, and is equipped with complete mixing panels, gramophone effects equipment and high-fidelity recording and monitor amplifiers.

The studios are also suitable for high quality recording of 35-mm. or 16-mm. film, for provision has been made for the compiling of the output of the mixing panels to the input of any existing type of film recording amplifier.

No. 4, orchestra or audience studio, the largest of the series, is 175 ft. long by 100 ft. wide. It has a stage capable of accommodating an orchestra of 60 pieces and is fitted with modern stage lighting and curtains.

The control room, giving full visual control of the stage, is equipped with a twelve-channel mixer, talk back, individual cue, and echo facilities and provision for disc play-back.

At the back of the stage there is a room equipped with mirrors suitable for housing back-projection equipment.

This studio is used extensively for B.B.C. programmes, including Louis Levy's "Music from the Movies," the Melachrino show, and Geraldo and his concert orchestra, and the B.B.C. variety orchestra.

No. 5 studio is a general purpose studio suitable for medium size orchestras of up to 40 players. It has accommodation for a small audience.

NEW WRAY LENS

The Wray Optical Works has recently marketed a new lens. It is the Cine Unitite lens of *f*/1.9 aperture. This is a fully colour-corrected anastigmat.

Vinten co-operated during the designing and testing of the lens by using it on Vinten cameras.

A particular feature is the fact that the marginal illumination is much greater than with other lenses of similar aperture. This is due to a patented form of optical design.

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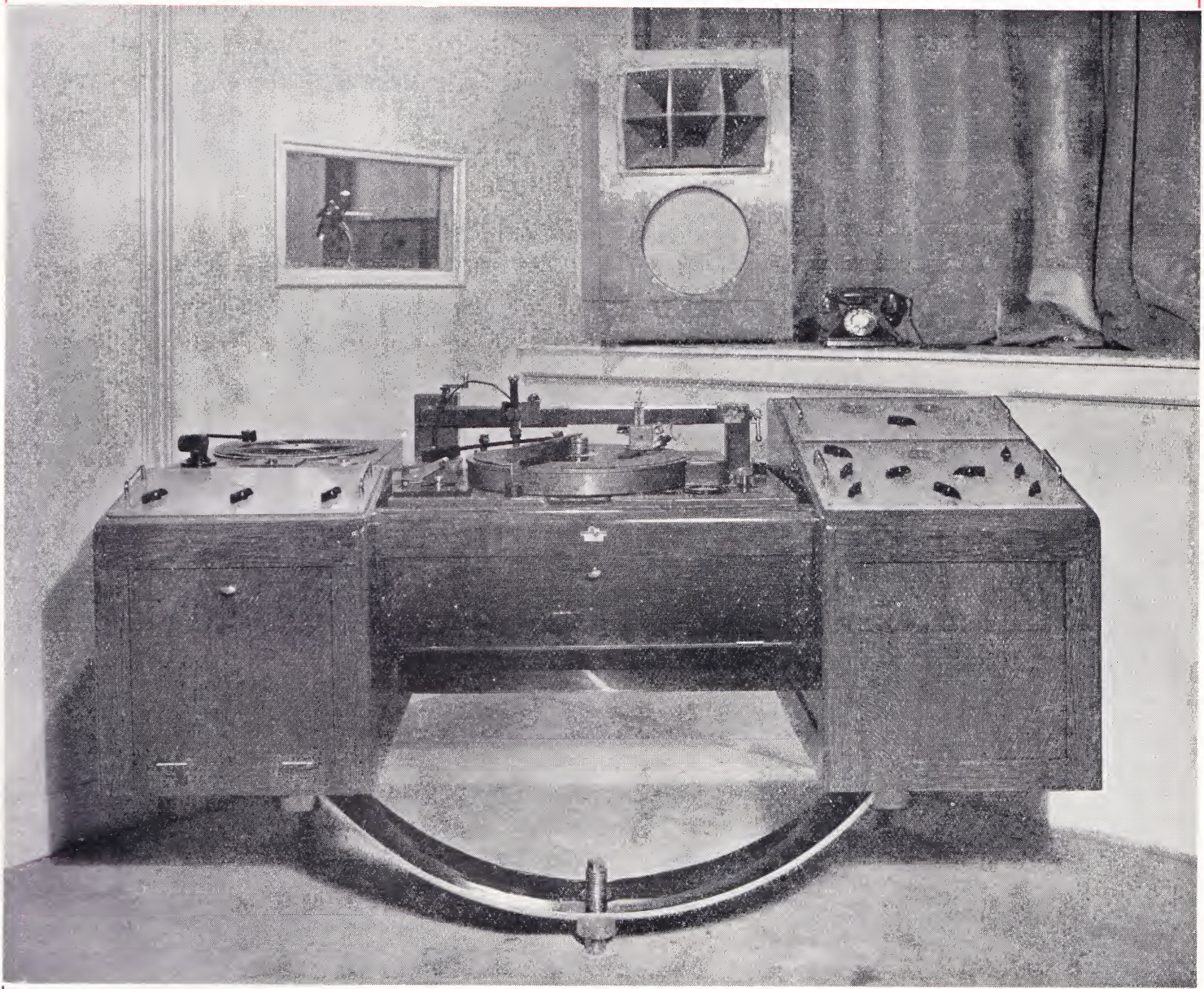

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British Pictures— And the Men Who Made Them

Continued from page 259

"NICHOLAS NICKLEBY"
(Ealing)

Producer	Michael Balcon
Director	Cavalcanti
Associate producer	John J. Croydon
Production supervisor	Hal Mason
Unit manager	Jack Rix
Continuity	M. Norton
Production casting	Muriel Cole
Lighting cameraman	G. Perinal
Camera operator	J. Parker
Sound recordist	W. Stephen Dalby
Art director	Michael Relph
Editor	L. Norman
Make-up	E. Taylor
Musical director	E. Irving

ELSTREE

"APPOINTMENT WITH CRIME"
(British National)

Executive producer	L. H. Jackson
Director	John Harlow
Production manager	Fred A. Swann
First assistant director	Denis Johnson
Casting director	Wallace Orton
Continuity	Joan Wyatt
Art directors	R. Holmes Paul and C. Wilfred Arnold
Director of photography	James Wilson
Camera operator	Gerald Moss
Sound supervisor	Harold King
Sound recordist	Cecil Thornton
Editor	Monica Kimmick
Make-up	Henry Hayward
Screenplay	John Harlow

"DOUBLE ALIBI"
(British National)

Executive producer	L. H. Jackson
Director	A. Travers
Production manager	Fred A. Swann
First assistant director	Bob Asher
Continuity	Joan Davies
Art director	R. Holmes Paul
Director of Photography	James Wilson
Camera operator	Gerald Moss
Sound recordist	Cecil Thornton
Editor	Monica Kimmick
Make-up	Henry Hayward

"GREEN FINGERS"
(British National)

Executive producer	L. H. Jackson
Director	John Harlow
Production manager	Fred A. Swann
Screen play	Jack Whittingham
Adapted by Jack Whittingham and John Harlow from a novel by Edith Arundel	
First assistant director	Leigh Aman
Continuity	Joan Wyatt
Art director	C. Wilfred Arnold
Director of Photography	Ernest Palmer
Camera operator	Moray Grant
Musical director	Hans May
Sound supervisor	Harold King
Sound recordist	G. Adams
Make-up	Henry Hayward

"LAUGHING LADY"
(British National)

Executive producer	L. H. Jackson
Director	Paul Stein
Production manager	Fred A. Swann
First assistant director	Leigh Aman
Continuity	Joan Davies
Art director	R. Holmes Paul
Director of photography	Geoffrey Unsworth
Camera operator	Edward Scaife
Sound recordist	Ben Shilton
Editor	A. Osbiston
Make-up	Henry Hayward

"NO NIGHTINGALES"
(British National)

Executive producer	Louis H. Jackson
Director	Vernon Sewell
Production manager	Fred A. Swann
Continuity	Joan Wyatt
Art director	C. Wilfred Arnold
Director of photography	Ernest Palmer
Camera operator	Moray Grant
Recording director	Harold King
Sound recordist	G. Adams
Editor	Dan Birt
Make-up	Henry Hayward
Director of music	Hans May

"SPRING SONG"
(British National)

Executive producer	Louis H. Jackson
Director	Montgomery Tully
Production manager	Fred A. Swann
Casting director	Wallace Orton
First Assistant director	Bob Asher
Continuity	Joan Wyatt
Art director	C. Wilfred Arnold
Director of Photography	Ernest Palmer
Camera operator	Moray Grant
Recording director	Harold King
Sound recordist	G. Adams
Editor	Monica Kimmick
Make-up	Henry Hayward
Musical director	Hans May

"WOMAN TO WOMAN"
(British National)

Executive producer	L. H. Jackson
Director	Maclean Rogers
Production manager	Fred A. Swann
Fist assistant director	Denis Johnson
Continuity	Joan Davies
Art director	R. Holmes Paul
Director of photography	James Wilson
Camera operator	Gerald Moss
Sound recordist	Cecil Thornton
Editor	Lito Carruthers
Make-up	Henry Hayward

ISLINGTON

"DEAR MURDERER"
(Gainsborough)

Producer	Betty Box
Director	Arthur Crabtree
Production manager	Fred Gunn
Art director	John Elphick
Camera operator	D. Lovell
Recordist	M. Hobbs
Editor	Gordon Hales
Make-up	Len Garde

"THIS MAN IS MINE"
(Columbia)

Producer and director	Marcel Varnel
Assistant producer	Ivan Lassgallner
Assistant director	Alf Keating
Production manager	Ernest Gartside
Continuity	Peggy Singer
Art director	George Provis
Lighting cameraman	Phil Grindrod
Camera operator	Dudley Lovell
Sound recordist	Micky Hobbs
Make-up artist	George Claff
Dress designer	Dorothy Broomham
Director of music	Allan Gray

NETTLEFOLD

"THE CROWTHERS OF BANKDAM"
(Holbein)

Co-producers	Walter Forde, Cully Forde, and Edward Dryhurst
Director	Walter Forde
Business manager	N. A. Bronsten
Art director	George Patterson
Production manager	Michael F. Johnson
Editor	Terrance Fisher
Camera	Basil Emmott
Make-up	Jack Pitcairne and Gerry Fletcher

"HAPPY FAMILY"
(British Foundation)
Made at Carlton Hill

Director	Ronald Haines
Scenario	Harry Alan Towers
Assistant director	Tony Hoyland
Lighting cameraman	Jan Sikorski
Camera operator	E. G. Malcolm
Decors	Jean Haines
Continuity	Shirley Barnes
Make-up	Fred Hills
Assistant editor	Dorothy Stimson

Director Cavalcanti, who was responsible for Ealing's NICHOLAS NICKLEBY and who is now directing A CONVICT HAS ESCAPED at Alliance Studios (Riverside)

"HE LIVED TO HANG"
(Gordon Kyle)

Producer	Gordon Kyle
Production supervisor	Laurie Lawrence
Editor	Douglas Myers
Lighting cameraman	Gerald Gibbs
Camera operator	Ken Talbot
Sound	Tom Druce
Continuity	Brenda Whitby
Make-up	Fred Foster

"I'LL TURN TO YOU"
(Butcher's)

Producer	F. W. Baker
Director	Geoffrey Faithfull
Production manager	E. S. Laurie
Story	Kathleen Butler
Director of photography	Arthur Grant
Camera	Bernard Lewis
Art director	George Paterson

"THE LONG SHOT"
(Grand National)

Production	Victor Katona
Director	Maurice J. Wilson
Assistant director	Gordon Lipman
Camera	Freddy Ford
Production manager	Charles Leeds
Screen play	Patrick Kirwan
Additional dialogue	Mabel Constanduros

"SEND FOR PAUL TEMPLE"
(Butcher's)

Director	John Argyle
Director of photography	Geoffrey Faithfull
Production manager	E. S. Laurie
Art director	G. Paterson
Sound director	John Meyers
Assistant to producer	Laurie Lawrence
Editor	Ted Richards
Camera	Arthur Grant
Continuity	Marion Ward
Make-up	Harry Webber

"WHEN YOU COME HOME"
(Butchers)

Producer and director	John Baxter
Production manager	E. S. Laurie
Lighting	Geoffrey Faithfull
Camera operator	Arthur Grant
Sound mixer	John Meyers
Art director	Charles Gilbert
Make-up	Harry Webber
Continuity	Marion Ward
Original story	Geoffrey Orme
Musical director	Percival Mackey

Continued on page 289

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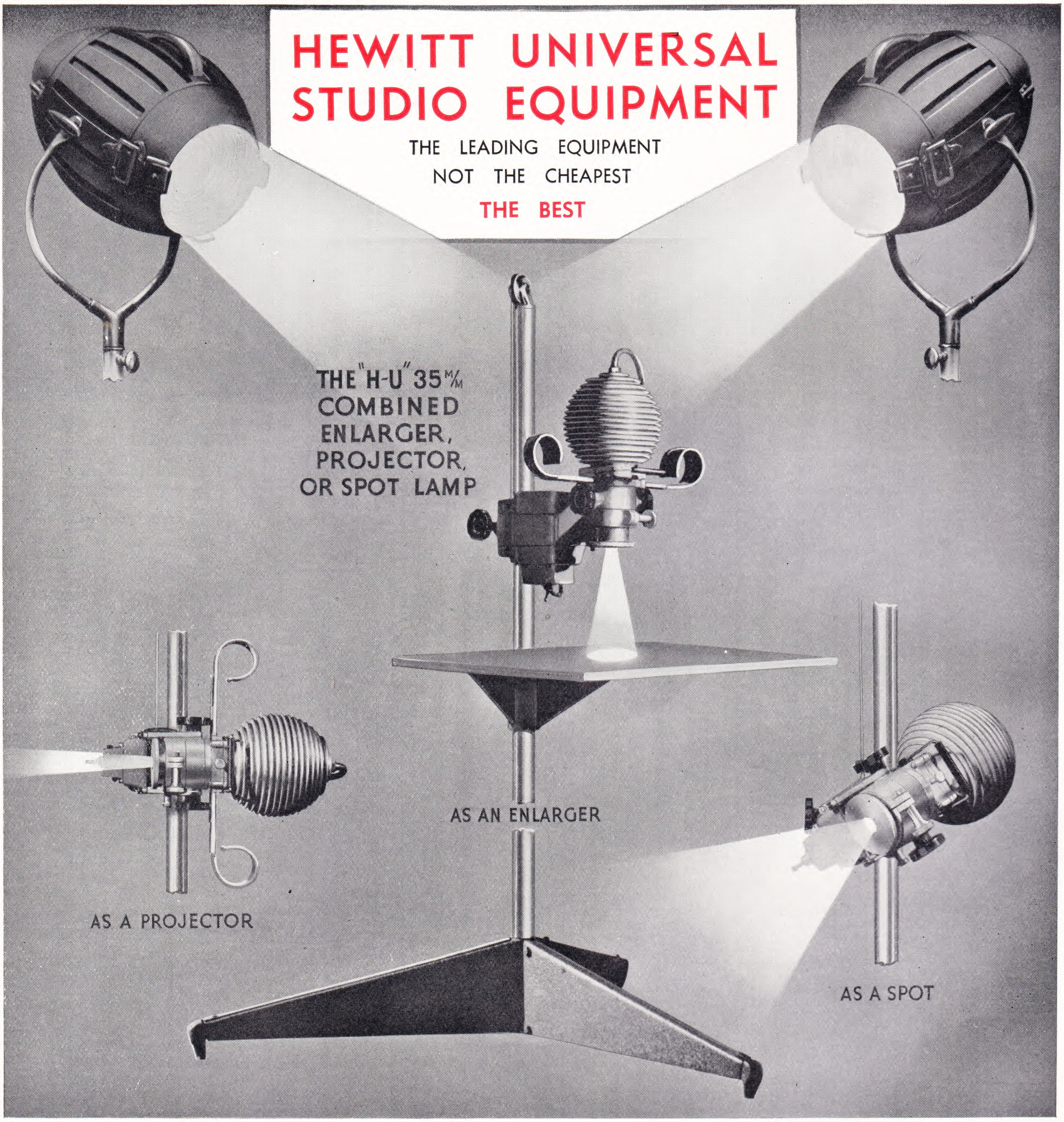

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H. WAXMAN

RANK TECHNICAL EFFECTS EXPERTS USE NEW METHODS AT DENHAM

A lot is happening in the special effects field. British producers realise that process photography methods and model work can cut down on budgets by many thousands of pounds. Both Arthur Rank and Sir Alexander Korda, as reported in this issue of the "British Studio Section," are building up large process photography plants. Here, a trick expert discusses his job, reported for the "Kine." at a recent meeting of the British Kinematograph Society.

HARRY WAXMAN, who worked on the Two Cities film, "School for Secrets," told B.K.S. Production Division members about some of the effects work on the picture. He dealt with the opening sequence, which, he said, called for an aircraft flying above the clouds, dropping down into the clouds and hitting an invisible mountain peak. It was desired to show the aircraft as if it had been filmed from an accompanying plane. It was immediately realised that existing methods of producing clouds were of no use, because the clouds had to have depth for the plane to penetrate them.

He recalled that in the R.A.F. Film Unit he had been faced with a similar problem, and had made experiments in which solid carbon dioxide—I.C.I. "Dricold"—had been used; if this were placed in water a white heavier-than-air vapour was released very rapidly. It was therefore possible by this means to produce clouds of vapour which would move always in the one direction: downwards.

A large ramp was built measuring 24 ft. long and 18 ft. wide. It was pivoted for tilting, and when the desired angle was found it was locked in position. At the top, some metal tanks were placed, 12 in. wide and 6 in. deep, extending the whole width of the ramp; each tank was fitted with a hinged lid which opened into the horizontal position. The tanks were fitted with electric heaters, heating the water to a temperature of 130 deg. F. To encourage the production of correct cloud forms, a stream of cold water was run down the surface of the ramp, so that the vapour was resting on a moving water surface. Down the centre of the ramp a trough was formed in which the aircraft could disappear.

The model plane ran on fine piano wire; although the ramp was sloping, the plane ran horizontally, and the camera was tilted to give the illusion of the plane slowly diving into layers of cloud. The camera—an Eyemo—was hand-held in order to give the effect of movement of the plane from which the shot was supposed to be taken.

Pieces of CO_2

When they were ready for shooting, small pieces of frozen CO_2 were placed on the lids of the tanks and were then tipped into the hot water. Vapour was immediately produced and rolled down the ramp. At several points on the ramp baffles were placed to break up the cloud formation. By this means it was possible to fill a large area with clouds which would last three or four minutes.

In the same film was another scene in which a Halifax aeroplane impacts a barrage balloon cable and crashes on a town. First, an actual scene of factories and roof-tops was filmed—actually at Dover—for the skyline. Back on the lot at Denham a real foreground was built, in front of which some action was to be played. The plane was, of course, a model. The three shots were then matched up in the optical printer so that the model aircraft, the real skyline and the people in the foreground appeared in the one scene.

Another shot called for was descriptive of a Radar installation, a lengthy sequence in which the camera was required to pan up a transmitting mast, over the sky and back to the receiving masts and down to the ground. It was filmed with the aid of large-scale models, the largest 15 ft. in height. A lift—actually a builders' hoist—was used to pan the camera up the first tower; when it had passed the top of the tower and was panning over the sea, the first tower was rolled away on a truck, and the receiving masts rolled in, down which the camera panned.

Fighter Spots

Yet another sequence in this same film called for a night Beaufighter to shoot down a JU88; the view required was from behind the pilot's eye and through the windscreen. Obviously, this called for back-projection; the real problem was to make the B.P. plate.

First, the German aircraft—a model—was shown from the correct position, with a trace of cloud produced with solid CO_2. At a given point a detonator was fired by remote control in the port engine, which then burst into flame. The tracer bullets had next to be put in; the night fighter was actually fitted with ten machine-guns, so that ten lines of tracer had to be put in, all converging on the engine that was to catch fire.

A frame from the first film was cut out, showing the engine on fire. A pinhole was made through the centre of the engine, and the frame was placed in the camera gate. The camera was set up on a rostrum, pointing downwards. Some 40 ft. or 50 ft. away a point was marked on the studio floor that exactly coincided with the pinhole in the frame. Behind the camera was placed a piece of wood, 12 ft. long, with the positions of the machine-guns marked off on it; from each position a thin piano-wire was run to the marked point. Down these wires were run little trolleys, each carrying a $4\frac{1}{2}$-volt lamp. Half-a-dozen were run down one wire, and, with the studio in darkness, were photographed at a camera speed of 6 or 7 frames per second. The film was run back, and the trolleys thus ran down each wire in turn, giving the ten exposures.

The next essential was the puff of smoke that accompanied the shooting down of the plane, and which always approached and enveloped the fighter. A white flat was highly illuminated, and a smoke bomb was fired through a hole in the centre, through baffles so arranged that the smoke converged towards the camera, which was run at one-third normal speed.

The three negatives, the plane, the tracer and the smoke, were then over-printed in the optical printer, providing the background plate, in front of which the cockpit of the real plane and the pilot were photographed.

Miniature Dolly

Finally, Waxman showed a reel of film from "Journey Together," portraying a raid on Berlin, taken throughout from inside the Lancaster. The actual fuselage was used in the studio, and shots taken on real raids were used as B.P. plates. In one case, to produce a tracking shot along the length of the fuselage, a tiny dolly was made, running on narrow rails along the inside of the fuselage; on this the cameraman lay full-length and was pulled along feet foremost.

The plane gets hit, and "ditches" in the sea. The realistic sequences showing the crew escaping in the rubber dinghy were all taken in the studio tank, which was some 60 ft. square. In order to reproduce the heaving of the plane and the dinghy, the camera was placed on a raft in the tank. The final shot, showing the plane sinking, was produced by B.P. of a model, a high-speed camera being used at a speed of 148 frames per second. The spray was intensified by the use of compressed air.

All the films shown were in black-and-white. In reply to a question whether colour would introduce any complications into such work, Waxman thought the only difficulty would be in obtaining a Technicolor high-speed camera; it would be preferable to use monopak.

Replying to T. S. Lyndon-Haynes, Waxman stated that another shot showing tracer entering the plane was almost the real thing. The camera was mounted inside the fuselage, and a machine-gunner 12 ft. away fired real tracer bullets.

A feature of the Lancaster sequence was that the 5-ton fuselage was mounted on delicately adjusted pivots, and the camera was throughout mounted quite separately on the studio floor.

CINE INDUSTRIAL PROVIDES B.P. PLATE SERVICE

CINE INDUSTRIAL PRODUCTIONS, whose studio facilities in Cursitor Street, E.C.4, were described in the last edition of this section, has launched out with a still and photographic location work coverage for feature producers.

Ronnie Pilgrim, in charge of the still department of the set-up, has gained a contract to cover all still work on Sir Alexander Korda pictures during next year. The company is already servicing "Man About the House," "The Courtneys of Curzon Street" and "White Cradle Inn," and has covered "While the Sun Shines," "Picadilly Incident" and "Nothing Ventured."

Cine Industrial has a mobile location unit, which is available for producers. It can cover establishing shots, B.P. plates and, in fact, any type of location work. The unit has been in action for the new Wilcox subject, "The Courtneys of Curzon Street."

The studios themselves, equipped with the latest gear, are booked heavily by short and educational film makers; but Cine Industrial Productions hopes, when space is available on its own floors, to make a number of pictures itself.

AGFACOLOR RELEASE POSITIVES MAY COST MORE THAN SIMILAR TECHNICOLOR PRINTS—*Continued from page 272*

Ten-Process Development Demands Large Quantities of Chemicals—Says Cricks

ing—Jack Coote remarks that "it has never been reported that any but the manufacturers have attempted it."

In Agfacolor the complication is thrown back on the stock makers. The actual colour formers are contained in the separate emulsion layers, so that a single process produces different colours in the three layers. One must not underestimate the immense chemical skill and research needed to find three suitable colour-developing couplers which have to meet very exacting requirements.

The five layers in the Agfacolor films are:

1. Blue sensitive — containing yellow colour former.
2. Yellow filter layer.
3. Blue and green sensitive—containing magenta colour former.
4. Gelatine layer.
5. Blue and red sensitive—containing cyan colour former.

Agfacolor, unlike Anscocolor, is processed by the negative/positive process, which means to say that the negative shows not only reverse tones, but reverse colours, red, for instance, producing a cyan image on the negative. This principle has the advantage since the positive stock is substantially similar to the negative, that any errors of colour rending inherent in the process will be to a large extent cancelled out.

The processing of the negative comprises six operations (excluding drying):

6 minutes—Development.
15 minutes—Washing.
4-5 minutes—Bleaching.
5 minutes—Washing.
5 minutes—Fixing.
20 minutes—Washing.

The purpose of the bleach bath is, of course, to remove the silver, so leaving a clear dye image.

Negative Processing

Before black-and-white negative can be printed it has to be graded for density, so that in printing the intensity of the printing light can be varied accordingly in order to produce a substantially constant mean print density. In the same way a colour negative has to be graded for colour; but there are three colours for which the negative has to be graded. For grading the negative is printed under different conditions of colour balance, with varying combinations of cyan, magenta and yellow filters; in printing, an elaborate method of controlling these three sets of filters is required. However, some such process is, and presumably always will be, needed for any colour process, and its necessity in Agfacolor cannot therefore be regarded as a defect.

Positive Processing

The positive processing would be substantially similar were it not complicated by the requirements of the sound track. The ordinary caesium photo-cell is especially sentitive to infra-red rays, and the dye-stuffs of the Agfacolor process are transparent to infra-red, hence a dye track is quite unsuitable for use with a caesium cell. The newly developed RCA blue-sensitive photo-cell is one method of overcoming this difficulty; but until such time as this type of cell is in general use it is necessary for the dye positive to have a silver sound track.

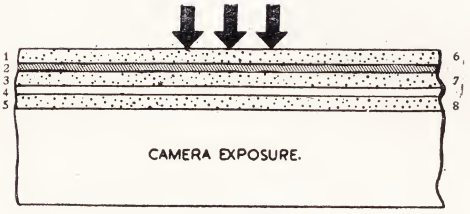
This is effected by bleaching the silver from the picture area only of the positive. Instead of bleaching the film in a bath, as in the case of negative, bleaching is effected by means of a viscous bleach which is applied to the film by means of a roller, and converts the silver of the picture area into a fixable silver salt, leaving the sound track unaffected. After the bleach has served its purpose, it can be reclaimed and re-used.

This process introduces yet another complication: it is necessary to remove the yellow filter layer from the full width of the film, and it is therefore bleached out in a very weak (about 5 per cent.) solution of the normal bleach. Naturally this bleach must not be too strong or it will bleach out some of the silver.

The processing of the positive therefore comprises:

10-11 minutes—Development.
2 minutes—Stop Bath.
15 Minutes—Washing.
3-5 minutes—Dilute bleach to remove the yellow filter.
3-5 minutes—Washing.
Application of Viscous Bleach:
3-5 minutes—Bleaching.
1-2 minutes—Sulphite bath.
5 minutes—Rinse.
5 minutes—Fixing.
20 minutes—Washing.

Consideration of these processes will demonstrate that, while on the negative side the Agfa process has undeniable advantages over the Technicolor three-film process (and even it may be over Monopak) on the positive side, whatever may be the results obtained, it will inevitably be much more costly. The stock itself will cost nearly as much as negative, whereas the Technicolor stock costs no more than black-and-white (were it not for the need of a silver sound track it could be cheapened still further by being of plain celluloid, since the grey key image is not now regarded as necessary). The actual time of processing is probably little different, but, on the other hand, while the Technicolor process is (mechanical difficulties apart) a straightforward gravure operation, the Agfacolor processing necessitates precisely controlled chemical operations, so delicate that ordinary photographic chemicals are not sufficiently pure, and specially purified chemicals have to be used. The temperature of the baths has to be maintained to within $\pm\frac{1}{2}$ deg. F.



The diagram shows the emulsion layers of Agfacolor. 1, blue sensitive; 2, filter layer; 3, blue and green sensitive; 4, gelatine layer; 5, blue and red sensitive; 6, containing yellow colour former; 7, containing magenta colour former; 8, containing cyan colour former

Quantities of Chemicals

Another factor is the large quantity of these chemicals required. Development needs a rate of flow of the specially concentrated boost of about 1 gallon per 1,000 ft., and about one-quarter of that quantity is needed for negative bleaching, while the quantity and viscosity of the positive bleach must be very closely controlled.

Examination of the above described processes will show that it is perfectly possible for them to be carried out in a normal laboratory, whose printers have the necessary filter array, whose processing machines are equipped with the additional baths and temperature controls and, in the case of positive, the bleach-spreading roller mechanism. This appears to be the sole advantage possessed by the positive side of the process over Technicolor

Since writing the above I have had the opportunity of a chat with Bill Harcourt, of Denham Labs., who is, of course, keenly interested in the possibilities of the process, and who has recently paid several visits to Paris, where he has seen the process at work in the Eclair laboratories. His view, after a close study of the difficulties of the process, is that they have been much exaggerated by Agfa.

The first job of the lab. is to colour-grade the negative. For this, two sets of grading devices are provided, the first giving a coarse grading covering all three colours, as well as neutral, and the second a fine grading, the variations confined to a single colour. A 70 ft. test strip is printed off the first, and from this the grader can see which of the colour-grading strips he will need to work upon. Another 7 ft. test strip enables him to judge of the exact setting of the numerous filters—no fewer than 30 of each of the three colours, and another 30 neutral. The variations of these filters during printing are affected by a type of Debrie light control

Precise Control

Processing, of course, needs very precise control, but, although the equipment at at Eclair is simply black-and-white equipment suitably converted, no difficulty is experienced in maintaining consistency. Harcourt's view is, in fact, that a higher standard of consistency can be maintained than with Technicolor. For the positive bleaching process, the roller method has been superseded by a gravity feed, the bleach being spread upon the film by means of rubber lips.

Another problem of which we have so far heard nothing, but which must obviously be faced if Agfacolor is ever to be commercialised, is the need for a duping process. Duping is essential, first for optical printing, and, when the final negative is assembled, for the production of release prints.

Jack Coote informed us at last month's joint B.K.S.-A.C.T. meeting that Anscocolor have developed a duping material, which is so far not good enough for the large-quantity duping needed for release printing, but can be used only in short lengths for optical work. Harcourt tells me that, had it not been for interference with research resulting from the unexpectedly early Allied invasion of the Continent, a similar process would have been developed by German technicians working in Paris.

On the vital question of positive costs, there is a distinct cleavage of opinion between Coote and Harcourt. Based upon the American costs of Anscocolor Coote thinks the cost of Agfacolor prints will be in the neighbourhood of 7d. On the other hand, experience by French laboratories has suggested that a figure of 3½d. per foot is not impossible.

MY SUCCESS STORY

By Laurie Friedman

recently contracted by M-G-M-British as co-head of the lighting cameraman team for the studios at Elstree, opening in a few months time.

IN 1931, a very small 14-year-old boy walked into a film studio and held up a very large board. On the board were numbers, but what they meant he had not the slightest idea. In spite of being told he was insane to enter such a business, he had started along the long, hard road that finishes, if you're lucky, with the title "lighting cameraman."

Then as now, studios came under the Factory Act, and no youth under the age of 16 should have been working in a studio. So, luckily, I gained two valuable years. But now I realise that those two years are better spent in the schoolroom, as what was once a "chance" business is now a highly scientific and technical industry, where higher mathematics and a sound education play an important part. It is better for a young man to learn at school than by trial and error in the studio.

After 18 months of "bawlings-ont," long hours, meagre salary, I managed to shake off the number board. Not, I hasten to say, because I was so bright, but because *another* friend of the managing director had a son at school-leaving age. Promotion put me in the dark—very dark, in fact.

I became a film loader.

The entire production was on my shoulders. How easy to open a magazine at the wrong time and expose the film, used or not, to the light. Maybe you think I didn't. Well, the saying goes: "You're not a cameraman until you've fogged a thousand feet of film." Frankly, by the same token, I should be England's greatest.

Promotion again, this time to following focus on the second camera and a foreign location thrown in. At the age of 19 I found myself *en route* for Egypt. It was there that hard training paid off. I was often told by my cameraman, as he was putting me through my paces, that I would appreciate it one day; how right he was—I appreciated it in Egypt, when I had to follow focus on one camera, do the number for another and operate a third, all at the same time, and all in a temperature of 110 deg. in the shade—only there was no shade.

Home from Egypt

Back from Egypt, one of the biggest producing companies asked me to take on a job. The money was double what I had been earning so I went. It was then I fully realised how important I was to the Industry. So important, in fact, that after three months I got the old familiar lay-off, and for eight months I didn't even see a camera or a stage. I remembered the words of a very lovable studio manager, known to us all as "Doc"—"Always be nice to people on the way up, as you are sure to meet them on the way down again."

Like almost everyone in the Industry in those days, I was continually in and out of work.

My real break came in 1936 when I joined an American company. For years we made pictures—one after the other. We were a small happy family, and I began to see my distant goal.

Then, 1939.

Poland invaded, and all we technicians, who thought we were so important to the Trade, suddenly became important only to our families. The studios closed down—and we waited. Eventually, some of us went into the Army, some in the Navy and some in the Air Force.

My War Job

My war job was photographing training instructional films for the Services. I remember once a Ministry official making me retake a shot as I had over-corrected the sky, and he said he didn't want lovely photography because it would take the viewers' attention off the subject they were learning!

Then came a picture on mustard gas for Home Security. We were in the gas, and I can assure you exposing and operating a camera in full gas gear was no easy matter. However, the picture achieved its object and, apart from two mustard splashes, I suffered little, much less than many of my colleagues.

My next and my last war job was as official photographer attached to a foreign Government.

So now, back again to features, to find things have altered so much during the war that it is difficult to recognise the old game. No longer are we the poor relations of the film world, but rather the backbone of a skilled and scientific profession. No longer do men leave their homes not knowing when they will return; but an organised, comfortable working week is planned for them.

No more are number boys numbering when they should have been tucked up in bed!

No longer are studios lying idle with

(*Continued at foot of next column.*)

Continued from page 263

BRITISH FILMS REVIEWED

homicidal Victor. Roland Culver is first rate as the detective.

Camerawork and musical accompaniment are first class. Thrilling and cleverly written story, versatile characterisation, big thrills, natural comedy relief, perfect London atmosphere, showmanlike finale, intriguing title and first-rate cast.

"THE WAY WE LIVE"

"KINE." REVIEW: July 25, 1946.
RELEASE: G.F.D.
CERTIFICATE: "U."

Direction of this feature-length documentary was by Jill Craigie with Laurie Friedman on the camera. Star: Peter Willes

EARNEST yet diffuse documentary, hinging on the Watson-Abercrombie Plan for the rebuilding of blitzed Plymouth. Screen propaganda must be both lucid and concise before it can hope to compete with, or act as substitute for, the conventional "second." This is tame and rather precious pictorial pamphleteering. . . .

Anyway, two reels is about as much as the average picturegoer can stand of propaganda. There is, to our minds, a limit to the popular box-office's burden, and this exceeds it.

"WOMAN TO WOMAN"

"KINE." REVIEW: October 31.
RELEASE: Anglo-American.
CERTIFICATE: "A."

LAVISHLY mounted yet refreshingly intimate war-time triangle melodrama, a stylish, up-to-the-minute re-take of the huge earlier screen success.

Not entirely beyond criticism—for one thing, it takes rather too long to get going, and for another, the hero's lone victories are so sweeping that many may wonder what the rest of the Army was doing—but its emotional angles and heart interest are sure fire.

Director Maclean Rogers times the emotional situations and the child values perfectly. Its studied showmanship and colossal feminine appeal are certain to put it in the big money. It's encouraging to see that Denham, Pinewood and Shepherd's Bush do not hold a monopoly of studio talent.

Continued from page 285

THRESHOLD SPEED OF EMULSION

nected with the intermittency effect—the fact that a series of brief exposures would produce less density than a single exposure of the same total duration. This was, said Mr. Moore, another aspect of reciprocity failure; its effect varied with the intensity level and the frequency of the flash.

Another aspect of the same matter was referred to by Mr. Wratten—the threshold speed of an emulsion. The author explained

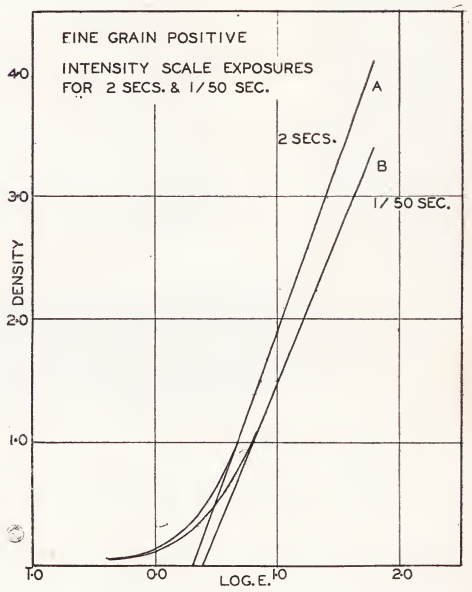


Fig. 2. Density scale exposure for 2 secs. and 1/50th sec., Fine Grain Positive.

that a latent image due to a very brief high-intensity exposure could be intensified by a subsequent fogging exposure; on the other hand, a camera exposure at low intensity would need a brief exposure at high intensity *before* the camera exposure for intensification to be effective.

The author did not think that reciprocity failure would vary much between batches of the same emulsion, nor that reciprocity failure would affect the volume characteristic of a variable density recording. He stated that the colour of the light made no difference to reciprocity failure, and there was from this point of view no objection to the resistance control of a printer lamp.

Both the author and the chairman summarised the practical aspects of the laboratory problem by agreeing that the stock manufacturer could recommend an appropriate IIB factor for his stock; for Eastman film the gamma would be in the region of 2.6 to 2.8, and for Ilford about 2.3 to 2.6.

(*Continued from previous column.*)

queues outside the gates, and no longer are key positions filled by men who, at the same time, are learning to speak our language. British films have at last come into their own, and as I wait, contract in pocket, to light my first feature film, I would say to young men entering camera departments: "You have a profession to be proud of; work hard, give all you have, and sooner or later the Industry and those who run it will give to you."

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OVERCOMING STRIKING PROBLEMS OF G.E.C. MERCURY ARC

Continued from P. 272

which precise ration of mercury to cadmium was the best for each size of lamp (it varies roughly according to the wattage due to a variety of factors; more cadmium being required for 1 kw. lamps than for 10 kw. lamps). The tests also indicated what tolerances in manufacture could be permitted without colour distortion.

Laboratory problems on the lamp itself having been solved, it was decided, for practical reasons, first to tackle the problem of the du-arc, because this is probably the least satisfactory of all present-day studio lighting equipment. The equivalent discharge lamp is a 2½ kw. compact source lamp. The discharge lamp, of course, lends itself to mounting in almost exactly the same housing as a tungsten lamp and few major alterations are needed.

Keeping the Lamps "Simmering"

Yet another problem crops up in its application to practical studio work: that the lamp takes from two to five minutes to warm up from cold, and if it is switched off it will not normally re-strike until it has cooled down. The latter point has been effectively overcome by the provision of a device attached to the housing, whereby if it is desired to re-strike the lamp when hot, a high-voltage pulse is passed through the lamp, initiating the discharge.

It is recognised that a delay of some minutes in the running-up time may be a source of inconvenience in production. The obvious answer is that the director must look ahead five minutes and give instructions for the lamps to be switched on five minutes in advance of shooting. An alternative is to "simmer" the lamps at half-load or less, and to cut off the light when not required by means of louvres. Suitable fittings are now in course of development.

Three final points upon which I sought information were whether the existing 110/115 volts of the studio mains was the most suitable supply for the lamp; what change in light output would be effected by a change in line volts; and how the new source compared in luminous efficiency with arcs and inkies.

Adjusting the Supply

As regards the first point, existing lamps require a voltage drop of about 70 volts, and the absorption of the balance in the ballast gives a perfectly satisfactory control. Lamps could be made for different voltages, but it is doubtful whether there would be any particular advantage.

The effect on the light output of a drop in line volts would be far less than in the case of a tungsten lamp. In round figures, the light output of the latter varies as the fourth power of the voltage, while that of a discharge lamp varies directly as the wattage—therefore, as a square of the voltage. Unlike a tungsten lamp, the colour of the light does not vary with voltage. It is difficult to give comparisons with an arc lamp, because a motor-fed arc very soon almost completely compensates itself for a change in volts.

Over-all Efficiency

As regards over-all efficiency, amp. for amp., the new lamp is practically identical with the arc-lamp and, therefore, better than tungsten. An important feature is that the beam from a discharge lamp is far less hot than that from tungsten or arc; this is chiefly due to the fact that the heat rays are of

Continued on page 304

The New Wall Newsreel Camera

I HAD an interesting discussion recently with Paul Wyand, of Movietone, who had returned from a three-week visit to New York.

Wyand took the opportunity of examining all the latest American newsreel equipment. His chief interest was in the Wall camera, one of which he had for 20 years, until war-time damage necessitated its return to the makers for overhaul and modernisation. The latest model, he told me, is a really excellent piece of apparatus; a feature of the lens turret is that the lenses, instead of being screwed in as with most American cameras, are held by a bayonet fitting, so that they can be interchanged in a couple of seconds

Battery Fed

The camera is driven by an electric motor, fed from batteries slung around the cameraman's waist, the case of which also contains a trickle-charger, so that on retiring to his hotel bedroom after a day's shooting, the cameraman can put the batteries on charge, and will wake up to find them ready for another day's work.

Wyand has in transit an Akeley

(*Continued at foot of col.* 4)

DUFAYCOLOR ANXIOUS TO EXPAND INSIDE HOLLYWOOD

DUFAYCOLOR film remains the sole colour process with which it is possible to photograph, develop and process without the installation of any new apparatus or equipment in the studio, or in the laboratory. For this reason it has proven particularly attractive to producers of films in many parts of the world where it would be impracticable to introduce special camera equipment or special laboratory apparatus.

For instance, even the Agfacolor type of multilayer film when it becomes available would require a special type of automatic developing machine and very able chemical personnel for control. The ease with which Dufaycolor can be handled by laboratories without previous experience has recently been well demonstrated by the production of a feature-length cartoon in Spain. The entire negative was developed in Barcelona employing standard Debrie machines and a completely successful result obtained.

Similarly, recent important negatives have been correctly processed in Egypt. No information was necessary other than the mere development formulæ. No other type of colour film could have been handled in this manner.

This situation has led to a very big demand from studios abroad, particularly in countries which are in the early stages of developing their motion picture industry, such as Turkey, Irak, South America, India, South Africa, and many other countries.

A considerable number of foreign laboratories are already in a position to give a full Dufaycolor service, including Switzerland, France, South Africa, India and Italy.

Export First

Dufay-Chromex is restricted from taking advantage of extensive home demands by the desire of the Government to concentrate first upon satisfying export orders. There seems no doubt that Dufaycolor film will rapidly become a world product. Indeed, the only reason why it has not been exploited on a large scale in the United States, states the company, is owing to the prior necessity of laying down a large plant in that country in order to secure adequate supplies. Export of the sensitised finished product from Gt. Britain to Hollywood would hardly be practicable on the present scale of production.

These questions are under consideration at the present time since it is clear that this British process has advantages which are quite obvious to U.S. film makers.

Dufaycolor is at present engaged in research work as a result of which a far finer screen or reseau can be confidently predicted in the near future; also a subtractive material of the multilayer type is in an advanced stage of development with which prints can be made from a negative screen material of the existing type. The company has every hope that during the coming year production will materially increase in volume so that the many British producers who have been unable to make Dufaycolor films since the war will again have available adequate supplies.

(*Continued from col.* 1)

gyro tripod, which he claims is as light as the baby friction tripod, and as noiseless, having hard rubber gears. He is in favour of a gyro head for smoothness of panning.

We shall shortly be seeing here some new Western Electric single-film newsreel sound channels. A feature of the equipment is its extreme lightness and compactness —as Mr. Wyand expressed it, the cameraman carries all the weight, while the sound man can put the batteries and amplifier in his pockets.

The Mitchell 16-mm. camera is meeting with great success in the States. It is simply a miniature edition of the popular studio camera, practically identical except in having only a three-lens turret.

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A NEW SYSTEM OF LENS STOP CALIBRATION BY TRANSMISSION

By E. BERLANT, in the S.M.P.E. Journal

IT is well known that the illumination of an image is indicated by the formular $E=kB \sin^2 \theta$

Where B = equals brightness of object
θ = angle formed by edge ray and axial ray of lens.
k = transmission loss factor.

The geometric ratio of focal length to entrance pupil now used as a method calibrating lenses fails to take into account variation of the loss factor k. This loss factor not only varies from design to design, but also from lens to lens of the same design and manufacture. A photographic objective of large aperture also shows a marked deviation from the theoretical relationship existing between various geometrical apertures (f/stops) owing to the change or surface reflection losses with the change of angular presentation of various zones of the lens.

Mathematical Premise

The system described here was based on: (a) A standard of calibration reproducible from a mathematical premise, (b) Correlation to current calibration practice, to avoid disturbance of film speed data and to enable use of the new system with existing exposure meters and exposure data, and (c) Correlation to geometric ratio calibration to permit use of depth of field tables.

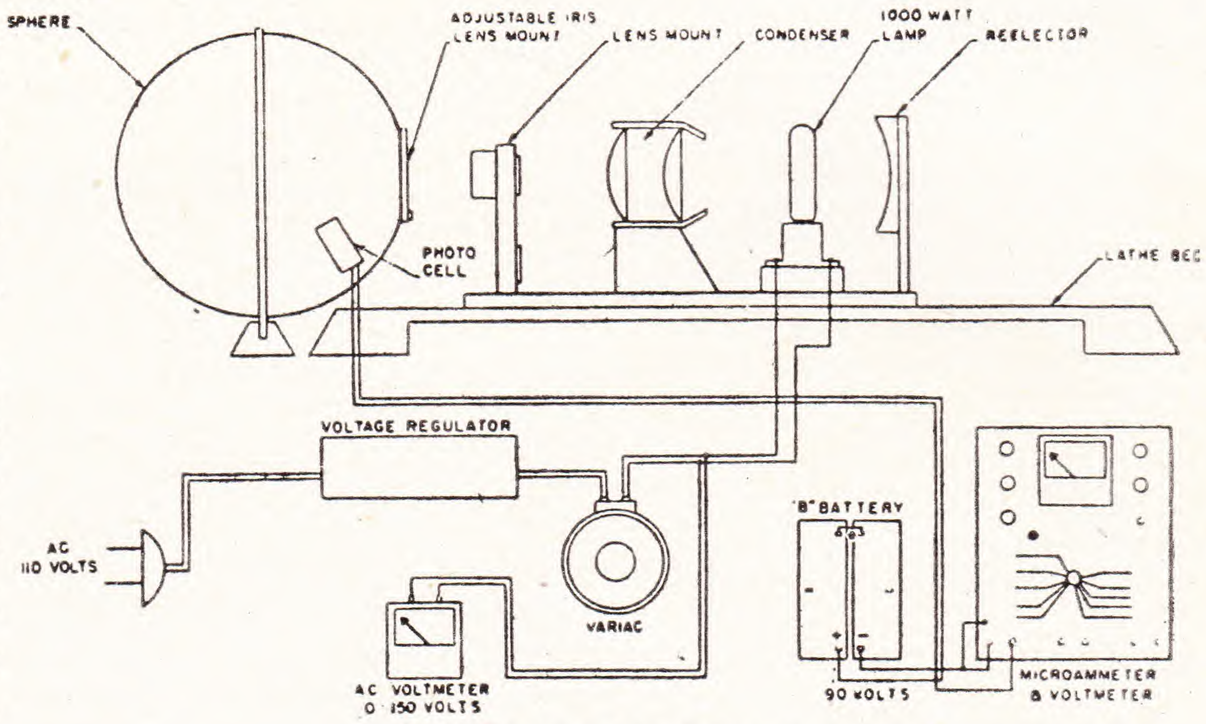
The apparatus used was based on that developed by D. B. McRae for investigation of transmission losses in optical systems.

A 1,000 w. projection lamp was coupled to a voltage controlled line and a beam of light condensed upon an opal glass masked by an academy aperture. The light from the aperture was admitted into an integrating sphere, and measured by a vacuum photocell and precision microammeter. The lens to be measured is placed into a turret-type mount bored out to receive several different types of lens mounts with a proper registration depth to the plane of the aperture. The light passed through the lens is then admitted into the integrating sphere, where it is measured as a proportion of the total flux at the aperture.

100 Lens Measured

One hundred lenses of the highest quality, of all focal lengths from 35-mm. to 165-mm., were measured in this apparatus, and the results were plotted on a graph; the f/stop as calibrated by the manufacturer, against the transmission of the lens in terms of thousandths of units of aperture flux as measured by the apparatus.

It was found that there was a wide spread of transmission values for various lenses of the same calibrated f/stop. The average transmission value of each group of



Lens Transmission Integrator

f/ stops was taken as the mathematical average.

Previous research by others has established that a photographic objective should transmit about one per cent. of the object brightness at f/8. Measurements with this apparatus indicate an average transmission of one per cent., for f/4.7. A line based upon a slope angle of $\sqrt{2}$ progression drawn through this point is offered as a basis for photometric transmission calibration.

It is advocated that lenses be marked with the geometric f/stop value in its usual place upon the manufacturer's identification ring and the diaphragm setting ring be calibrated in accordonce with the t/stop or transmission value. This indication of the relationship existng between transmission value or t/stop and focal length to aperture ratio of f/stop will act as a basis for a correction factor in using depth of field tables.

EX-R.A.F. MAN SETS UP NEW SERVICE

A new production facilities organisation. the Stanley Organisation was started last November by W. L. Stanley, a former R.A.F. officer with many years' business and studio experience to his credit.

W. L. Stanley

Stanley is now making steady progress. The principal object is to give assistance to those producers who are not able to carry a large staff of production managers, assistant directors, and so on, giving them a comprehensive service.

From Page 294

NOT SUITABLE FOR PROJECTION OF COLOUR FILMS AHEAD OF THE U.S.

longer wave-length, to which the glass of the lens and diffusers is partially opaque. Whatever may be the reason, it is estimated that the heat falling upon an artiste from a discharge lamp is, for an equivalent amount of light, only about one-quarter of that from tungsten.

Noiselessness

These factors are, however, regarded as of less importance than other points: simplification in design of lighting units, lack of attention, unvarying light output, and—perhaps most important—complete noiselessness.

One final point I should mention: that although the discharge lamp has proved itself capable of illuminating a set of colour kinematography, it is not yet suitable for the projection of colour films. The chief reason is that, while to the colour camera a line spectrum is—provided the lines are in the right places—just as effective as a continuous spectrum, this is not the case with the human eye. We shall still have to wait some time before the discharge lamp can be used in the projector.

Technical aspects apart, there is one point upon which we in this country can take pride: that these developments are far in advance of those overseas, and, in fact, if Hollywood adopts the discharge lamp, such a lamp will have been made possible by British research.

Contd. from P. 255

DENHAM TRIES OUT SILENT TURNOVER

stages—one of which, as previously reported, has been rebuilt.

Worton Hall has, of course, been working at high production in the limited area (21,430 sq. ft.) since it opened on August 6, when George King rented the studio to make "The Shop at Sly Corner," and the Peak unit has been completing "White Cradle."

Special effects men can save thousands of pounds on the budget of a big picture. For this reason, this major plan which is now being completed by the Korda group, will hold the attention of more than a few keen film people who are already interested in seeing what type of product Korda—who has always maintained a lead in technical quality in his pictures—will be turning out during the coming season.

The present emphasis inside all studios to-day is, for that matter, on improving technical quality and production efficiency. In September this year the KINE. reported exclusively the Rank Research Department plans to boost production output by means of a new process called "independent frame." The process, designed to make the maximum use of all types of process photography—particularly B.P.—would minimise the use of craft labour in the carpentry and plaster departments and step up efficiency on the floor in the pre-planning stages.

Practical experiment, it had been hoped, would start at Pinewood before the end of this year. Hold-up, I am told, is because the much-discussed triple-head back projector is not yet available. But first tests will doubtless be made soon.

The Rank production group has been experimenting on a number of technical problems during recent weeks. Some of them, less spectacular than "independent frame," have done much to help production and keep British technicians well up to the Hollywood mark of efficiency.

Silent Turnover

Among the new techniques is Silent Turnover, now completing initial experimental stages on the Two Cities' "October Man" sets at Denham. S.T. is the result of ideas pooled by production, camera and sound departments in the studios.

Object is to cut out the noise and shouting which always occurs during the few minutes between rehearsals and the first "take."

This is how it works:—

The director starts his final rehearsals. At any moment during these he may signal the focus puller to turn over. That signal will be silent.

Focus puller, on this signal, swings a "built-in clappers" in front of the camera lens and holds them in position. This movement automatically switches on three blue lights: (1) At the side of the camera; (2) at the sound recordist's desk, and (3) in the sound van.

This blue light means "signal for cameras to turn over."

The sound recordist immediately signals the sound cameras to turn.

When the sound cameras are up to speed, a red light appears by the side of each blue light. This means that the cameras are running at "speed," that the number board has been photographed, and that the "sync. mark" has been automatically registered.

The moment the red light is showing by the side of the cameras, the focus puller lowers the "built-in clappers" and the director is silently cued that the cameras are up to speed.

At the end of a take, if the director feels he only requires a slight change or modification, he will quickly tell the artists, and go on to further takes.

The Silent Turnover method will be put into use on all Rank productions, if the "October Man" experiment proves successful. System, which uses up extra film stock, calls for very strict flow routine.

Other studios have been busy on experimental work. Nettlefold, for example, was the first studio to use high-pressure mercury vapour lights on a current feature production. Prototypes of the B.T.-H. gear were used on "The Crowthers of Bankdam." Now studio manager W. H. Norris predicts that the studio will soon be using mercury lighting instead of arcs.

Some of the studio managers who have been in the news during the year. Extreme left: Baynham Honri, who was appointed Ealing studio manager in October. Second left: Hal Mason, wartime Ealing studio manager, now appointed general manager for the studios. Second right: A. C. Darnborough, for some time production manager at Riverside, was made studio manager at Islington when Sydney Box took the Gainsborough production chair. Extreme right: L. Kleeman, studio manager at Shepherd's Bush for many years, carries on with general manager Ernest Gartside. They saw the best British picture of 1946, THE WICKED LADY (judged by KINE. senior reviewer R. H. "Josh" Billings), through all its stages of production

First film to be made under the Arthur Rank-U.S. reciprocal deal was SO WELL REMEMBERED. The RKO-Rank unit, under Hollywood director Edward Dmytryk, is seen on the Denham lot. Film is now being edited and musical score put on in Hollywood. Stars: John Mills and Martha Scott

Ealing Plans

Apart from this technical planning, other studios have been adapting present production facilities to meet new conditions. Ealing, for example, has been unable to keep two units in continuous production because of floor space shortage. Work has started to adapt the silent mother stage (80 ft. by 60 ft.) into a modern sound stage, which will have an area of 150 ft. by 65 ft.

This extra space will make it possible to put two productions on the floors together. Ealing executive producer Michael Balcon estimates that this will step up the annual schedule by over 50 per cent.

Plans for this job have been completed by Robert Atkinson. The conversion means, however, that Ealing will sacrifice what small production space it has got its lot.

Well, that's the studio position to-day. Good progress has been made during the year—but a lot remains to be done. New space is coming into use every month, more efficient equipment is on the way, new techniques are being tested. It all adds up to one thing: The great British production drive, a war-time dream, is now well on its way.

RCA MARKETS NEW RECORDING GEAR DESIGNED SPECIFICALLY FOR COLOUR WORK

Latest Re-Recording Apparatus, the LG230R, Can Accommodate Twelve Sound Heads for Multi-Track Mixing

THE technical features of RCA sound film equipment embodied in plant assemblies now in current use throughout the world will be further extended as factory deliveries are made of a new range of designs, intended to improve performance of existing models and to meet the requirements of allied developments which may be introduced in the Industry.

Apart from the extensively used PM-35 and PM-38 recorder channels, both of which include. among other things, those proven quality producing features of magnetic film drive and ultra-violet exposure, several production groups have in use the new dual operation equipment specially developed for making 35-mm. or 16-mm. sound records with one mechanism only. This channel is optionally energised from A.C. or D.C., and compact enough to be carried installed and ready for use in a light utility-type car or, if preferred, it may be arranged as a transportable pack set.

As in the case of the regular studio channels, standard duplex or push-pull variable area sound tracks can be made with this recorder; alternatively, the system can be adapted for the immediate and optical change over from one type of track to the other. Electronic mixing and ground noise reduction units are standard features of the equipment, which is marketed as the RCA PM-45 Series.

New One-Film Channel

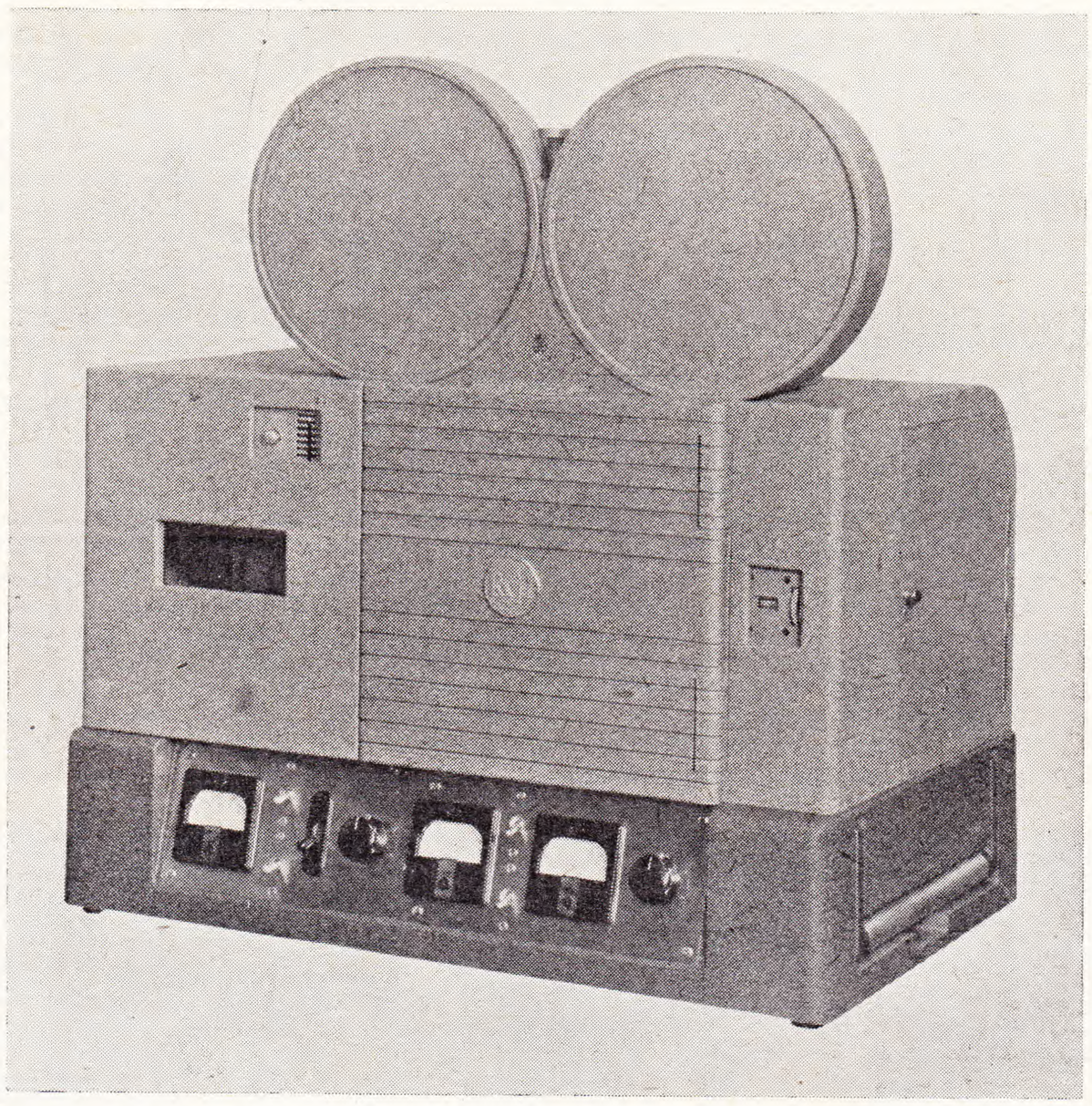
RCA's latest single-film channels for newsreel work are expected to be operating locally before 1947. These lightweight and extremely flexible models will record, as required, either standard duplex or class "B" push-pull sound tracks. and by the turn of a switch, choice of ultra-violet or white light exposure can be made. The sound system can be fitted to either Mitchell or Wall type cameras, and is known as the RCA PM-44 Series.

Colour Work

For certain types of colour photography now coming into use it has been considered advisable to develop a new sound mechanism, retaining the several stablished features of the current studio recorder, but to which has been added new ideas for greater universal use and flexibility. The new recorder, known as MI.10305/6, is included in RCA's PM-49 Series recorder equipment, and can be driven backwards or forwards; has a completely enclosed unit lubrication system with visible oil reservoir; new optical system, and a completely new modulator. The modulator can be used on existing machines if so desired.

16mm. Re-recording

Many additional facilities are included in the composition of the channel, and the amplifiers



General view of the new RCA PM-49 film recorder

give a further improved performance regarding harmonic content. In keeping with the advantages of this new channel, RCA have also developed a lightweight 35-mm. recorder which will follow the principles and performance of the MI.10305/6, while to cater for sub-standard work a similar machine for 16-mm. gauge film is also in production.

Hand in hand with recording goes re-recording, and in view of the importance of this aspect of the art, an entirely new equipment has been devised known as the LG.230R, with the object of providing for the reproduction of sound tracks for this purpose. This consists basically of two combined picture and sound-heads, enabling separate picture and sound tracks to be run synchronously on the same head, an improved reproducer amplifier and de-luxe horn system, together with auxillary equipment to provide power, metering facilities and control.

The number of re-recording sound heads, all operated by the Selsyn interlock system, can be increased by unit numbers up to 12 to meet the requirements of multi-sound track mixing. With the exception of the sound heads, all the units in the projection room are mounted in cabinets, and are such that power units to cater for additional sound-heads can be easily added to conform with the adopted styling.

The exciter lamp supply units are fed from a voltage-regulated source to isolate them from mains voltage fluctuations and consequent change of output level.

Particular attention has been devoted to the sound head mechanism, and extremely fine machine tolerances are provided in order to give precision of operation and adjustment.

The advantage of push-pull recording for the purpose of providing high-quality prints for re-recording purposes is now widely recognised, and the MI.9031-R type sound heads are accordingly fitted with a device to allow the reproduction of either standard or push-pull types of sound track. The change-over is made by merely throwing a switch, while all optical adjustments and sound levels are automatically maintained. A particular feature of the whole LG.230R equipment lies in the arrangements made for balancing and levelling the outputs from the various sound heads.

Nothing External

By means of an ingenious switch and metering arrangement, all this can be carried out in the projection room, without the necessity of using any external circuits or apparatus. This is an important advantage, which results in much saving of time, and allows all checks and tests to be made before switching through to the associated re-recording console. The measurement of modulated carrier film tests can be made in a similar manner, it being unnecessary to bring a recording channel into service for the purpose of this important daily routine.

Numerous other refinements incorporated, such as a calibrated amplifier volume control which can be transferred by switching to a similar unit on the re-recording console, make the LG230R an efficient high-quality tool, which, when operated with the PM-49EA recording channel, provides the heart of a first-class studio equipment.

For Review Work

For review purposes, the LG230R equipment has been brought out. This consists of two combined sound and picture heads similar to those in the LG230R equipment, but fitted with three-phase synchronous motors. Amplifier and reproducer horn systems are again similar to those supplied with the LG230R and the same high standard of workmanship has been maintained. Modulated carrier test equipment also forms a standard part of the equipment.

Acoustic Research

RCA's research in acoustics is available to British studios, and polycylindrical splay treatment for music recording stages will be incorporated in certain important centres during 1947. The best example of Mike Rettinger's work in Hollywood studios is exampled by the new Republic music and scoring stage. An Academy award was granted in 1946 for this contribution to the motion picture Industry.

WESTERN ELECTRIC'S PORTABLE 35-mm., 100 mil. RECORDER

RA-1284 Operates on 115 volts

A COMPANION unit has been built to the new Western Electric 200 mil. semi-automatic recording system which embodies the 200 mil. push-pull magnetic sealed light valve, anamorphotic lens, and automatic recorder control by the use of which a single manually-operated switch automatically operates in timed sequence all of the numerous functions necessary for a complete motion picture "take." This companion is a light-weight portable system for producing 100 mil. single sound records on 35-mm. film.

Four Parts

Due to its light weight and excellent quality, this small recording system has great appeal to the major producers who want light-weight equipment for extended locations and for the smaller producer whose needs do not fully justify the more costly and de luxe equipment.

The series "500" small recording system consists of four principal items of equipment: the RA-1283 mixer, the RA-1282 amplifier-noise reduction unit, the RA-1231 film recorder and the RA1284 power supply unit. Inter-connecting cords equipped with connectors are provided for convenience in location operation.

The RA-1283 mixer is arranged to mix the outputs of two microphones. The two input jacks to the mixer each connect to a single stage amplifier with 600-ohm output, each of which is followed by a dialogue equaliser which provides equalisation in five 4 db. steps over a range of 0 to 20 db. These connect into a resistance combining network which terminates in an output plug for connection to the main amplifier. The unit also contains headset monitoring facilities for the mixer and the boom operator.

Dimensions of the unit with cover are approximately 16 by 8 by 6 inches.

Noise Reduction

The RA-1284 amplifier-noise reduction unit section consists of three stages with selective gain settings of 70, 80 or 90 db. A mid-range equaliser is included which for 35-mm. film peaks at 3,500 cycles and is adjustable over a range of 0 to 5 db. in 1 db. steps.

A high pass filter with approximate 100 db. cut-off is also included and can be cut in or out by means of a switch. A line-up oscillator, volume indicator meter, light valve equaliser and noise reduction circuit complete the unit.

Dimensions of the unit with cover are approximately 10 by 7 by 15 inches.

The RA-1231 recorder is basically the same as the de luxe 200 mil. push-pull recorders, except that the modulator is simpler and smaller since only 100 mil single recording is involved. This, of course, means that the overall recorder is considerably smaller and more portable. The light valve modulator is magnetic sealed and similar in appearance, though smaller, to the 200 mil. push-pull light valve.

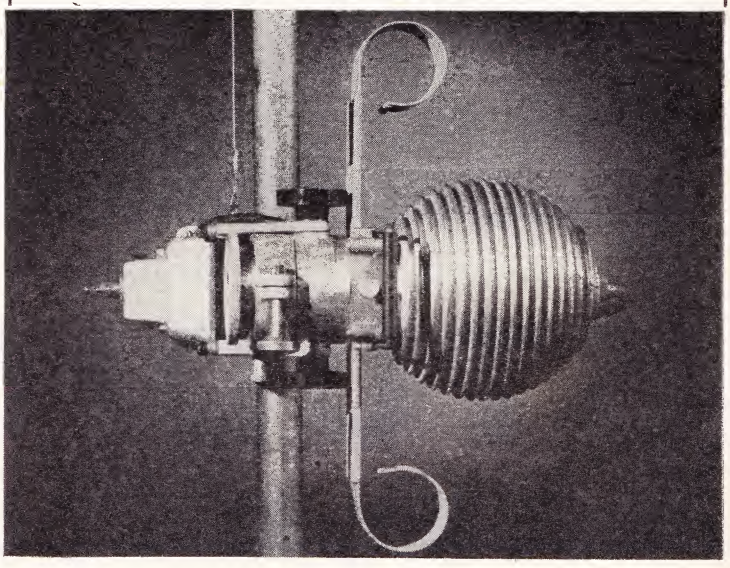
The RA-1284 power unit is arranged to operate from a 115-volt single-phase source, and supplies all the power necessary to operate the 335 system, except for the film recorder motor. It provides for recording lamp current and DC filament supply for the mixer and part of the amplifier, and AC filament supply for the rest of the system. It provides for a 180-volt regulated plate supply for all vacuum tubes. It is housed in the same type of cabinet as the RA-1282 unit and therefore has the same dimensions.

For 16-mm. Work

This system can readily be converted to 16-mm. recording by the removal of the 35-mm. sprockets and film pulling mechanism and the substitution of 16-mm. sprockets. The sprockets and film pulling mechanism are mounted on dowled plates which can be easily removed or refitted.

The only other changes are the switching over to different mid-range equalisation in the RA-1284 amplifier-noise reduction unit and to changeover from light valve network to low pass filter cutting off at 6,000 cycles, which is done by means of an internal switch.

35-mm. ENLARGER : SPOT : PROJECTOR



Multiple H.D. Industries has been building up a steady reputation for its studio equipment—starting with a set of studio lamps which was put on the market last year. Now, the company is putting into production a useful piece of equipment designed to help the owners of small production plants.

It is a 35-mm. enlarger, a small spotlight, and a projector for "still" plates all in one.

This 35-mm. enlarger has a transformer enabling a 12-volt bulb to be used as the source of light, the input being 220 volts.

The mount or holder which carries the film is so constructed that it cannot get out of position in relation to the optical system.

The housing is mounted on a central column and is automatically counter-balanced by a weight which moves up and down inside the column.

The table, which is of ample proportion, is easily adjustable to any position, the focusing device on the enlarger is quick in action and very accurate.

The bulb and holder is removed from the housing at the rear by a simple movement.

By a turn of a knob the whole housing is revolved 90 degrees and can be used as a projector for projecting strips or individual pictures, and by a rotating movement, film can be projected horizontally, vertically, or at any angle.

In addition, by the turn of another screw the housing can be used as a spotlight of high intensity lighting value, thus enabling one to use the unit for taking the picture, projecting, or enlarging it. One can see that a unit of this description is of great advantage, especially in studios with limited space.

SHORT FEATURES NEED TO HAVE MORE PRODUCTION SCOPE

Says Paul Barralet

IF the short feature is to gain popularity it must be given more scope.

With this in mind I recently decided to take advantage of the recent relaxation in foreign travel and to take my unit to France, for I felt that a new background would lend a touch of novelty to the subject we had in mind. After the usual dreary formalities with the Customs we got under way; we took a considerable amount of equipment with us, including two complete camera outfits, lighting apparatus and a portable disc recorder and therefore travelled by sea, which was both restful and uneventful.

On our arrival at Bordeaux the French Customs proved most helpful. The cameras could be taken anywhere we pleased, but the lights—well, that was different! But after a little persuasion the matter was soon put right. In spite of the fact that my production manager, Peter Collin, could only speak a little French, he had no difficulty in fixing up facilities; everyone was most anxious to help, and within a few hours we had permission to photograph a cabaret performance, a wine chateau, and the activities of the University. The French people seemed quite film-minded and took no notice of our cameras when we were working around the town, while the police held up the traffic when cameraman Lionel Wheeler took shots from the middle of the main thoroughfare.

The representatives of the "Delegation de la Cinematographic Française" were most helpful. Not only did they give us many useful introductions, but advised us on locations. They were also very interested to know how the British post-war film Industry was progressing, and expressed their admiration for our latest productions.

We were told that, although French film-making was facing many problems, production was increasing and every studio in Paris was working. Many new films were being made with the co-operation of American distribution companies, but the lack of equipment was causing producers considerable concern. As in other countries, present-day costs are almost double pre-war figures—a good first feature now costs anything between £50,000 and £70,000, and while returns in the big cities are fairly satisfactory, the smaller provincial audiences are poor—this is attributed to the high cost of living.

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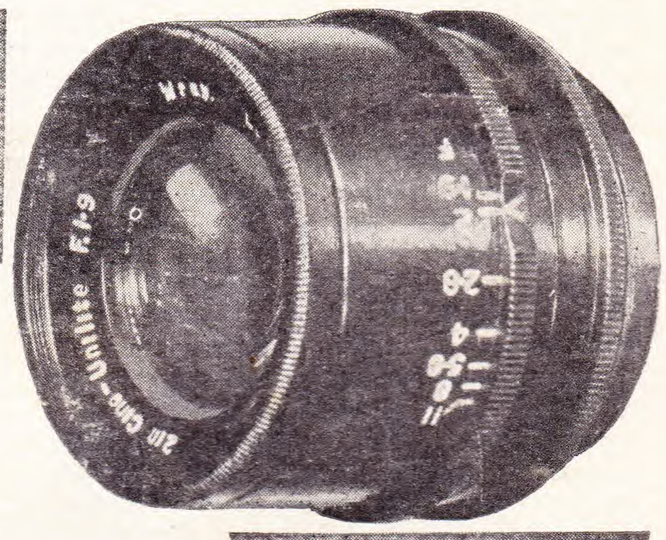

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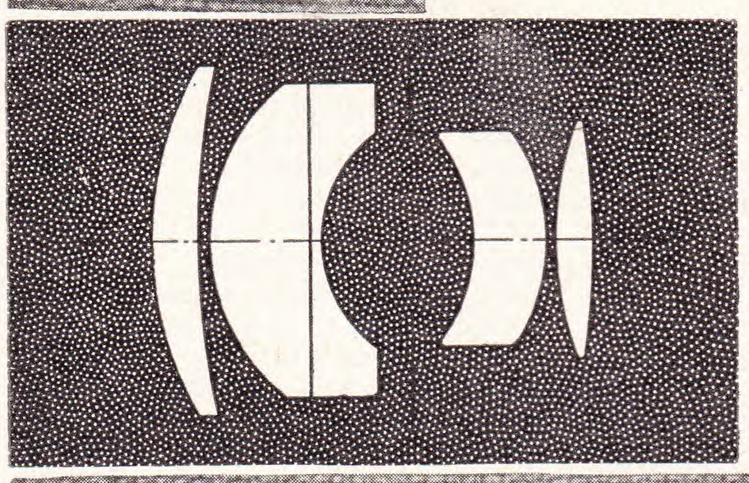

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Waiting Period

A national crisis ushered in the three months of British film production under review in this supplement. And although the studios fought successfully against the hazards of those days, the feeling of crisis is still in the air.

The word is used rather in the sense of climax than of danger. Substitute for it quota or, taking a broader view, legislation, and the meaning is plain enough. The studios are batting away sturdily, turning out pictures, many of them on a higher standard of quality than ever before, but over all the activity looms a vague shadow in the shape of a gigantic, misty query. What will the revision of the Films Act bring?

It is obvious, from the reluctance of most producers to give any concrete information about their plans up to a year ahead, that their minds are occupied with possibilities, and that they do not wish to commit themselves before His Majesty's Government has revealed the form and detail of the revised Act.

There can be little doubt, especially in view of the international economic situation, that quota regulations will emerge that, in the long run, will demand more of British producers. Many of them, I imagine, are wondering how they will be able to seize the opportunity or fulfil the obligation, according to which way they look at it.

Make no mistake about it, there will be an obligation involved, for the whole trend of affairs is towards an expanding British film production Industry, although not necessarily conversely against American production.

The possibility of an import duty on films adds a further complexity. If it were imposed, it would inevitably lead to more demands upon British production, upon our overtaxed floor space. It would mean increased headaches over the problem of reducing time on the floor per picture.

The Industry's peace effort is liable to be a good deal more exacting and far-reaching than its war effort.

OVER-ALL SURVEY

A MATTER OF TIME

The future prosperity of the production industry is likely to depend largely upon shooting time on the floor. That is the conclusion reached by Leonard Wallace in this comprehensive survey of the last three months film making and the possibilities for the future. His account of what has been done and what may be done shows that the industry as a whole is vitally aware of the need to cut down floor schedules while preserving high quality of production.

THE leading article in column 1 outlines the general implications of the present national and international situation as it affects the British film production industry. The studios seem now to be in an interim period of speculative waiting. Not many producers will state their plans for the next twelve months explicitly; some decline to give any information at all. The Films Act is in the minds of most of our leaders, and now the possibility of an import duty has given them another matter for weighty consideration, and further reason for keeping their own counsel as to their future acitvities.

Plans there are—no doubt of that; and in all probability alternatives to cover all contingencies. But just now we are not hearing so much about those long-term programmes we used to find plugged persistently. It may be that the major producers are waiting to see whether, in the event of legislation demanding stepped-up activity, the authorities are prepared to grant facilities and supplies they have hitherto withheld. It would be reasonable for them to hope for some such assistance, especially as official circles seem to be more and more tending to regard our pictures as potential dollar earners, or at least as a desperate bulwark against dollar spending. At the moment the possibility is concluded by another of those very big question marks that seem these days to punctuate the affairs of our Industry when they impinge upon national matters.

This article seeks to assess the possibilities for the future by reviewing the present. It examines, so to speak, the battle order for the next offensive in the light of present skirmishing.

We have completed some dozen pictures in our major studios since the KINE. last issued a Studio Section Supplement. We have started 26, including productions as ambitious as "Hamlet," "Anna Karenina," "An Ideal Husband," and "Scott of the Antarctic," and subjects as diverse as "Oliver Twist" and "No Orchids for Miss Blandish."

At Denham, twin holder with Pinewood for long-schedule records, Peter Ustinov completed "Vice Versa" in under 12 weeks' floor time. It has been replaced by the Paramount British picture, "So Evil My Love"; and it will be interesting to compare this picture's shooting time with native British efforts which have been made in the studio. Present reports indicate a smoothly flowing production under the control of the Hollywood experts, producer Hal Wallis and director Lewis Allen.

Accent on Quality

"Hamlet" is scheduled to occupy the floor on other Denham stages until October or thereabouts, but few people will quarrel with this if the result is the kind of prestige picture all the people working on it expect it to be. Elsewhere in the studio "The Mark of Cain" proceeds steadily under the direction of Brian Desmond Hurst.

At Pinewood there has been, one hears, some trouble with "Blanche Fury," which resulted in it being at one time six weeks behind schedule, but efforts are being made by shooting with dual technical crews to make up the leeway. "The Woman in the Hall" is nearing the end of a smooth three months on the floor, and "Oliver Twist" has just gone into production. This promises to be a large-scale quality picture of a standard comparable with that of the Cineguild team's "Great Expectations."

The accent at these two studios has always been on quality, and this is reflected in the shooting times of the pictures. The question of the wisdom of this policy is one that will be debated for years to come, no doubt. There are those who feel that we should concentrate in this country on cheaper, yet competently made, films for home consumption, and forget the American market.

But I have a feeling that this would not altogether suit British audiences, who have become accustomed to a high standard of production from our studios, and would soon start comparing cheaper films unfavourably with the better Hollywood efforts, to the detriment of our pictures at the box-office.

It may be that legislation will do something to clarify this vexed question, especially if the suggestion of a quota for second features emerges as a fact. But there is no doubt at all that we must always have a percentage of first quality films if we are to compete successfully with Hollywood, even in our home market.

World-Wide Range

Two studios which, generally speaking, judiciously blend of economical production and quality are Ealing and Gainsborough, taking the latter to include Shepherd's Bush and Islington. The running times of the films which have occupied the floors of these studios during the past six months have been rather less on the average than those at Pinewood and Denham.

Ealing is especially notable for a far-reaching programme planned by Michael Balcon. Apart from "It Always Rains on Sunday," which was made entirely in the studio and on London locations, Ealing units have been ranging the world. Large sections of "Against the Wind" were made in Belgium, leaving comparatively little to be done in the studio.

"Scott of the Antarctic" is being filmed entirely in Switzerland and Norway, and there will be only a few sequences remaining to be done in the studio around October. "Eureka Stockade" is to be made in Australia, and a unit is already on its way there to start the job almost immediately.

Balcon, in fact, may be regarded as the pioneer of British films on an Empire basis, a plan which J. Arthur Rank has said he will develop as the occasion permits. Incidentally Louis Jackson, to whom Canada has for a long time been what Australia is

(*Continued on page xi*)

RISING COSTS: A "KINE." INVESTIGATION

Like every other industry, the film Industry has not escaped the problem of rising costs. A good deal has been talked about rocketing budgets, but little precise information has ever been made public regarding the details. In what proportion is the additional burden distributed? What costs more? And how much? To find the answer to questions of this sort the "Kine." has conducted a wide survey. Many sources have been tapped and figures examined. The result of this investigation is this impartial article, the findings of which are summarised in graph form below.

THE question of cost is one which exercises every producer in this country, and it is one which will loom very much larger when the quota revision is announced. It is apparent that whatever the details of the reshaped Act, more British films will be needed to meet its requirements. That statement is true now, anyway, before any legislative action has been taken.

Thus, the problem of rising costs is very likely to be intensified. An investigation by the KINE. covering many and varied sources of information, has produced the following facts and deductions. They prove conclusively that costs have risen steeply and that they may be expected to go on rising.

There are three main reasons why it is very much more expensive to make a motion picture to-day than it was before the war. Materials and equipment have increased in price; labour of all kinds is more expensive; the longer time on the floor, due to the quest for quality, adds to the overall costs.

It is probably fairly accurate to state that the cost of a picture rises in direct ratio to the time it is actually shooting. One made to a ten-week schedule will cost "x" thousand pounds; one made to a 15-week schedule will cost half as much again.

It should be realised that this cost embraces all the others; longer time on the floor obviously means more materials used and larger salary bills. Is this worth while?

The major producers believe that it is. They feel that the rising tide of popularity of British films can only be maintained by improved quality; and certainly, if our films are to please American audiences, quality must be kept to a high standard. No one yet has discovered a short and cheap route to quality; therefore, in a long-term sense, this expenditure must be considered justified.

All Materials "Up"

It is certainly going to be the policy of the Rank group to maintain this quality, even if it means a smaller margin of profit. The research departments of all groups, as well as of the Rank Organisation, are bending their efforts to devise processes and equipment which will help to maintain quality while cutting down actual shooting time. In this connection read Norris's article about studio co-operation with industrial concerns in the matter of scientific development; you will see that the back-room boys are working hard to produce mechanisms that will indirectly, at any rate, help to reduce costs.

Materials are all "up" on costs as compared with 1938 standards. Many of them are in short supply also. Timber is especially restricted, and up to 50 per cent. more expensive for most grades. This shortage of timber has led to a greatly increased use of plaster in most studios. Techniques of construction involving the impregnation of hessian by plaster for stiff drapes, rock backgrounds and similar effects, in the use of plaster castings for decorative mouldings that before the war would have been turned and modelled in wood, have greatly reduced the consumption of timber, but have by no means counteracted the shortage.

Plaster is cheaper than timber, but not so cheap that the saving is effected, having regard to the vastly larger quantities now used, levels the scales against the high cost of wood.

Paint is in better supply now than it was a few months ago, but it is twice as costly as it was before the war. The story is the same with all materials. The overall picture is one of material costs anything from 50 per cent. to 100 per cent. up on pre-war figures. Add to this the fact that in all the reputable studios there is no skimping of material, but rather an increase per picture for the sake of quality, and you have a fairly considerable addition to the debit side of the balance sheet on this score.

Labour's Share

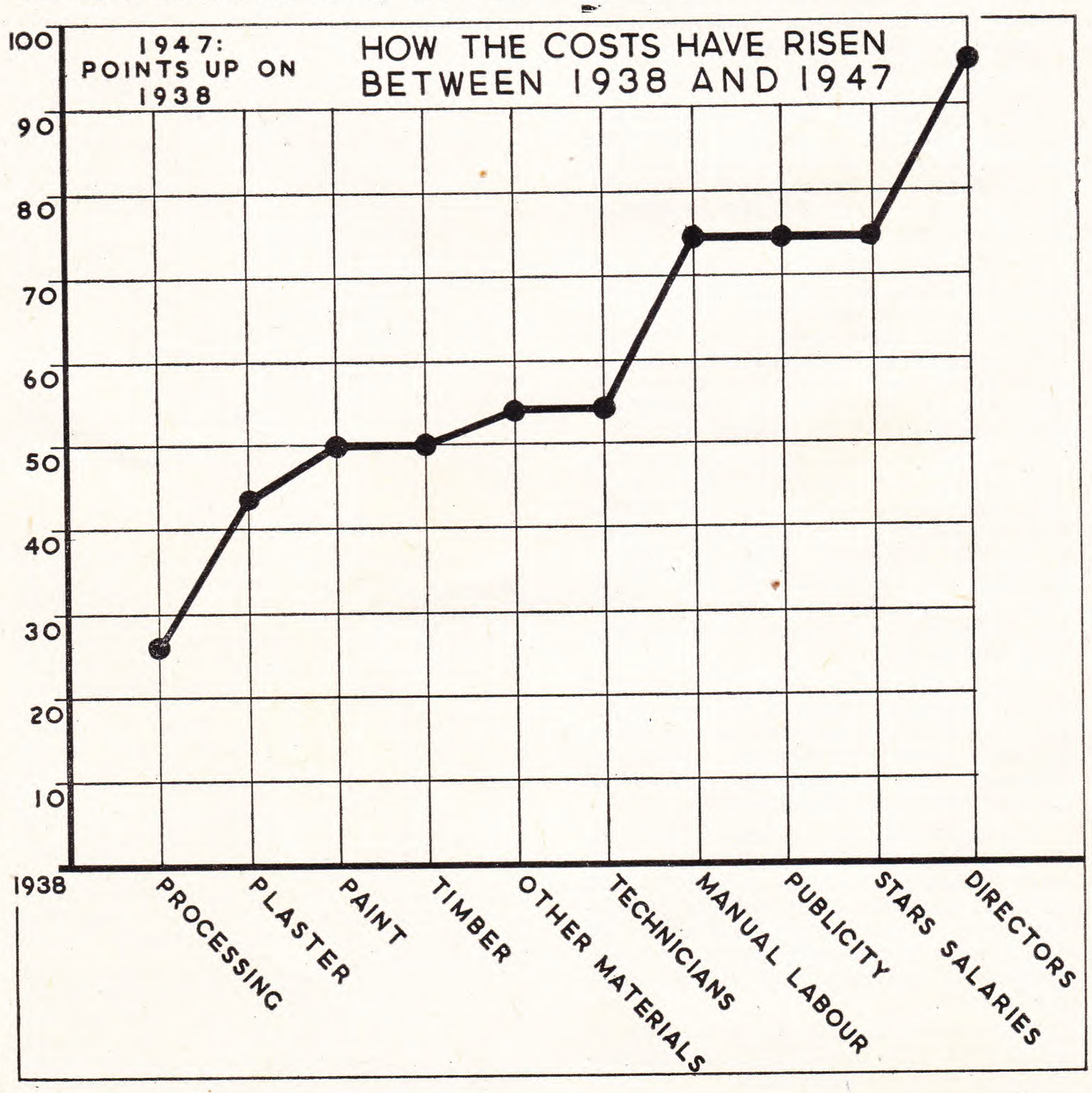
Labour—using the term in its broadest sense—covers by far the greatest increase. One studio manager said: "Payment for services rendered is the heaviest expense." Another went further and stated: "Labour cost increases are greater than all the others put together."

Every grade of worker is now earning considerably more than he did before the war. Star contracts are at the highest level since we developed stars. Featured players and top ranking technicians get salaries they would never have dreamed of before the war; and even the humble crowd player—the Cinderella of all film workers—gets more money per day than he did seven years ago.

As this is written, the new N.A.T.K.E. agreement is complete except for ratification. It will present the producers with a much higher wage bill. The A.C.T. demands when they reach the agreement stage, even if in a considerably modified form, will also mean more money all round. In fact, the increased burden will be such that some of the smaller producers will find it hard to maintain their activity.

Training Schemes

The labour position is still serious. High rates are being paid to many who cannot match the skill and speed of the old studio craftsmen, who form the small hard core of industrial workers in films. The producers do not grudge the high wages now being earned by the fully skilled men, but they are concerned that they have to pay similar rates to men who are often only semi-skilled—speaking purely practically and not in terms of time served.



This shortage of skill, which means loss of quality and a slower rate of work, tends to add to the overall production costs; and there are many producers who feel that the workers, who will in future be on a 44-hour week, will not be able to maintain the speed that is necessary for economic production. It is true that they have given their assurance that there will be no loss of pace when the new agreement operates, but some managements wonder if the semi-skilled will be able to maintain the drive that will be necessary if this assurance is to be implemented.

In the long-term sense most studios are pinning their faith in the new apprenticeship scheme which is in the final stages of being thrashed out between B.F.P.A. and the Unions. But the effect of these training schemes cannot be positive for four or five years after their introduction; in the meantime there appears to be some basis for the producers' concern.

Low Standard Imports

For instance, the increased use of plaster has called for more really skilled men who can model and cast to the very high standard required by the studios. It was found that there was a serious shortage of such workers in the labour market, but eventually some "skilled" men were drafted in from Ireland. When they started to work, it was immediately apparent that their standard of craftsmanship was very much below that of skilled workers in the studio shops.

The situation, however the various factions may at times colour it to suit their own cases, is sufficiently serious. It is no consolation to know that the Americans are faced with similar if not more acute problems of cost and labour.

In the case of equipment, the general rule stands. Shortages obtain: prices are up. One encouraging factor in this case is that British manufacturers are now beginning to turn out varying equipment, from lamps to cameras, in steadily increasing quantities, and of a standard comparable to those of America.

British Now Preferred

The fashionable demand by camera crews for American cameras such as the Mitchell is steadily giving way to a liking for British productions such as the Newall and the Vinten Everest, as they find them in practice highly efficient and more readily serviced.

Good as these cameras are, they are still more expensive than their pre-war counterparts, but to some extent this greater cost can be offset by the greater efficiency which makes for improved quality. For this producers will gladly bear the additional expense.

The figures upon which the graph, which illustrates this article, is based naturally varied very considerably from different sources and certainly from picture to picture. The points up on 1938 were computed as fair averages, and the graph reflects reasonably accurately the current state of affairs.

The high increase of directors' rewards over the pre-war level indicates a growing status to which probably no producer would take exception. One reason why many of our pre-war films were not up to standard was the fact that they were directed by men whose efficiency was questionable, to say the least. To-day, most directors are experienced men, most of whom have also worked their way through a number of technical grades. They have gained much knowledge and have proved their skill the hard way. That blend of qualities is worth paying for.

Star salaries are high because the stars who mean something at the box-office could be counted by a child of three, and first-class, versatile featured players are not much less scarce. It is a simple matter of supply and demand, complicated, against the producer's advantage, by stage commitments and the ever-present lure of Hollywood and New York.

Some of the most popular stars are under contract, and this further restricts the market against the producer; and borrowing a contract star can be an expensive business. There are players to-day, with relatively no bigger names than they enjoyed before the war, earning four times as much per picture as they did in those days.

Writers, too, take more money than ever before. One received £1,000 for a first script—and the producer who bought it probably thought the outlay well worth while considering the success of the film at the box-office. Good writers, too, are scarce, and those who can give a producer exactly what he has in mind are rarer still.

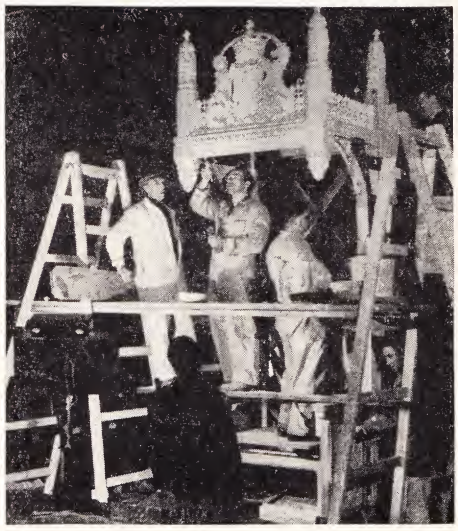
Price of Quality

This probably accounts for the fact that in so many cases several writers are employed on the same job until, by elimination, the producer gets what appeals to him, although all the previous efforts may in themselves have been highly efficient. To the onlooker, it seems an expensive way of dealing. On the other hand, if the producer isn't satisfied with the script, the picture will probably prove to be an indifferent job.

Most of these expenses, steeply though they have risen, are probably borne philosophically, if not gladly, by those producers who care for quality, and believe that the extra touch of class in all departments pays dividends at the box-office. Most would agree, too, that the increased over-all cost of publicity is a worth-while expenditure. There is more of it and the results are incalculable, but it does appear that more business-like methods in some publicity organisations could reduce cost without impairing effectiveness.

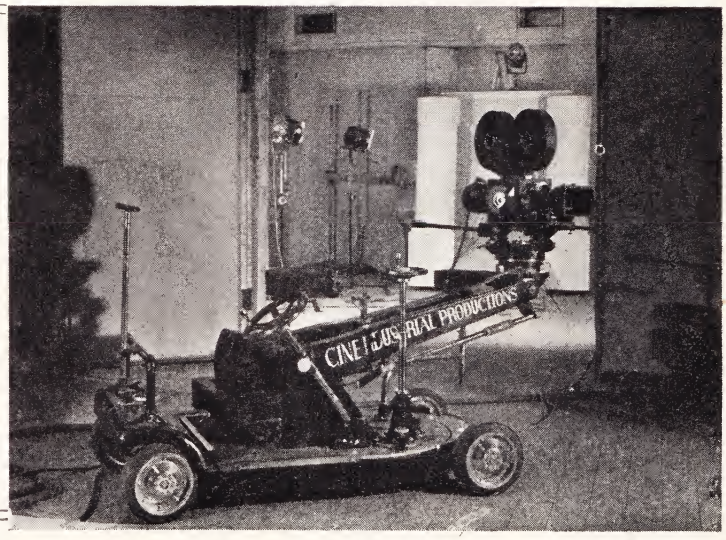
This summary reveals some heartening facets out of a generally grave picture. The producers are prepared to face a narrowing margin of profit if they can maintain quality—which indicates a bold and forward-looking viewpoint. The resources of the studios have been, and are being, marshalled to reduce costs where possible, by use of substitute materials, some of which have been proved better for some purposes than those originally used. There is also a constant drive to develop new techniques.

Studio people—managements and workers—all realise the difficulties. If they can maintain the rise in quality in ratio with the rise in costs they may emerge with balance sheets that are satisfactory in the final analysis. The way to do that is by teamwork and by everyone practising the old industrial dictum, "A fair day's work for a fair day's pay."



Flasterers at Shepperton at work on a model of the Speaker's Chair for "An Ideal Husband". Before the war this would probably have been made in wood

The centre picture shows the carpenters' shop at Southall — typical of one studio department where economy is enforced by shortage, and the craftsman is restricted mainly to basic constructions. Right: The sort of equipment which costs much more today than before the war is still hard to obtain; small studios are lucky indeed if they possess a really modern truck



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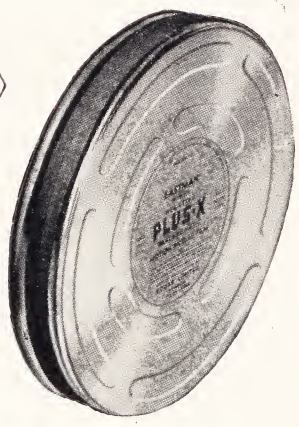

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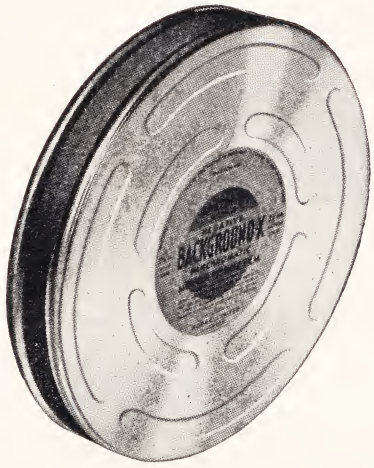

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PRACTICAL RESEARCH BY NETTLEFOLD WORKERS

TECHNICAL and scientific research and development by film studios is something that has long been practised in Hollywood, where the solidly established and richly endowed film production industry can set up laboratories and research stations, beautifully equipped and staffed by highly paid experts. In this country we have not yet reached that stage, although we have made a start.

The studio which has most consistently been concerned with development of this kind is Nettlefolds, which has pioneered, among other things, television for use on the studio floor. The camera used for this work is reviewed by our technical expert Howard Cricks in his section of this issue. In this "Kine." interview, W. H. Norris (right), manager of Nettlefolds, and a fully qualified engineer, discusses the practical application of it and also of other items developed by the studio team in co-operation with manufacturers.

Nettlefolds, the oldest active studio in the country, has before it the example of its founder, Cecil M. Hepworth, in the matter of invention, development and research. There he made and used the first mechanical developers and printers: there he experimented in the early years of the century with sound devices, and even produced a machine which gave genuine synchronised sound.

With this example before them, the studio workers have always been more than commonly interested in discovering new technical ideas, in developing equipment and in fostering new processes. Since I have been at the studio—a matter of twenty-two years—I have done my best to encourage this enterprise and have tried to play as useful a part in it as my many duties will allow.

We do not claim to be either inventors or a full-scale research group. What we do is to think of something that we believe will in some way benefit film production, discuss it thoroughly, get out drawings or models as required, and then take it to a manufacturer. It is there further discussed and a mock-up made.

Example from Practice

This is then tested and criticised by us and returned to the makers for modifications: so it goes on by trial, improvement and elimination until a prototype is produced and approved. Then the job can be manufactured in quantity, but may still be further modified in the light of experience in use.

As an example of successful work in this manner I quote the Hewitt lamp, which has been for some time now turned out in quantity by Multiple H. D. Industries. We pioneered this lamp which is now in use in most British studios. It was done at a time when there was a drastic shortage in British studios of lightweight lamps of all kinds.

It was developed and produced in quantity within a very short time and was immediately made available to the entire industry. We are in no sense secretive in our research and development. We are ready to co-operate with anyone in our work and to pass on the results as soon as they are practical.

We aim at producing something which will add to the efficiency of film making, either because it is a better article than anything of its kind than has gone before; and if, as is often the case, it makes for cheaper working and saves production time, so much the better. It all contributes to the basic aim of production to-day, to cut down floor-shooting time without loss of quality in production.

Our television apparatus, developed in co-operation with Pye Radio, may, before very long, fulfil all the desirable points enumerated. In use it enables everyone interested on the floor to see exactly what the camera sees, which at present only the camera operator can do. This means that there need be no hold-ups while the art-director, the lighting expert and the director climb on to the camera to look through the operator's viewing point. This is particularly useful in the case of crane and platform shots.

Inter-communication

Time is also saved because, when shooting is actually in progress, all interested parties can agree instantly whether the scene is right, by consulting their personal television screens. In this way the incidence of "N.G." takes is very much reduced.

A further advantage could be that service departments, such as the carpenters' and plasterers' shops and the art directors' drawing office could be linked to the floor, and consultations which now mean a good deal of running about from place to place could be conducted by television.

When only television cameras are used on the floor there will be the great advantage that scenes can be photographed from two or three angles, and actually mixed on the negative in the film camera room in dead quiet and clean conditions. Trick work, such as superimposition, ghost effects, etc., can be achieved by this method, even when the two component scenes are being taken in different studios.

The actual transference from television camera to the film camera in its remote booth or control room is done optically, and this fact enables us to shoot with up to a fifty per cent. reduction in intensity of floor lighting. We have shot a scene in this way experimentally, using only oil lighting, and have secured reasonable results.

In the radio field we have conducted some interesting experiments with frequency modulated (FM) transmission. We photographed a car chase in which two characters in the front seat of one of the cars had to have a dramatic conversation. They were fitted with tiny throat microphones to exclude background noise, and the dialogue was recorded in a sound truck at a considerable distance away. Their conversation was clearly reproduced and entirely free from extraneous noises.

Work with Radio

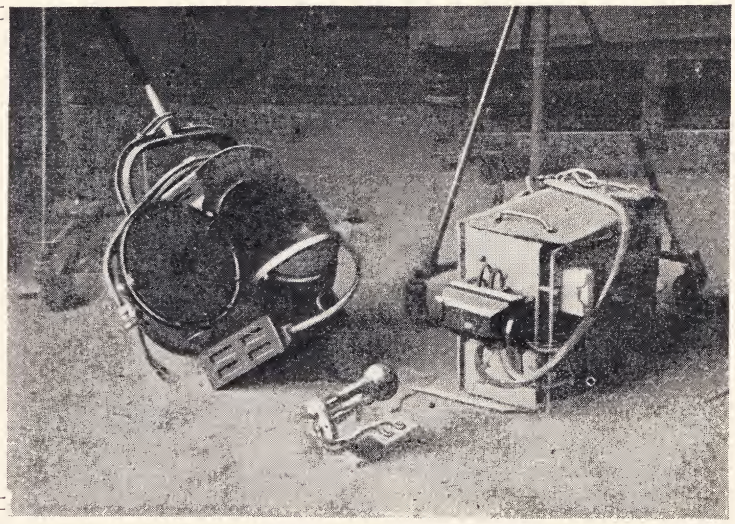
Having established the practicability and the extraordinary low interference level of this type of recording, we are conducting further experiments to perfect the apparatus and its range.

Another successful experiment we conducted in radio control was carried out with crowd scenes during the making of "The Crowthers of Bankdam." For these scenes we fitted section leaders with tiny ear receivers, the set being concealed inside their jackets and the aerials also inside their jackets across their backs. These section leaders were then instructed during the shooting of the scene by microphone orders delivered from a detail script of the action by the director.

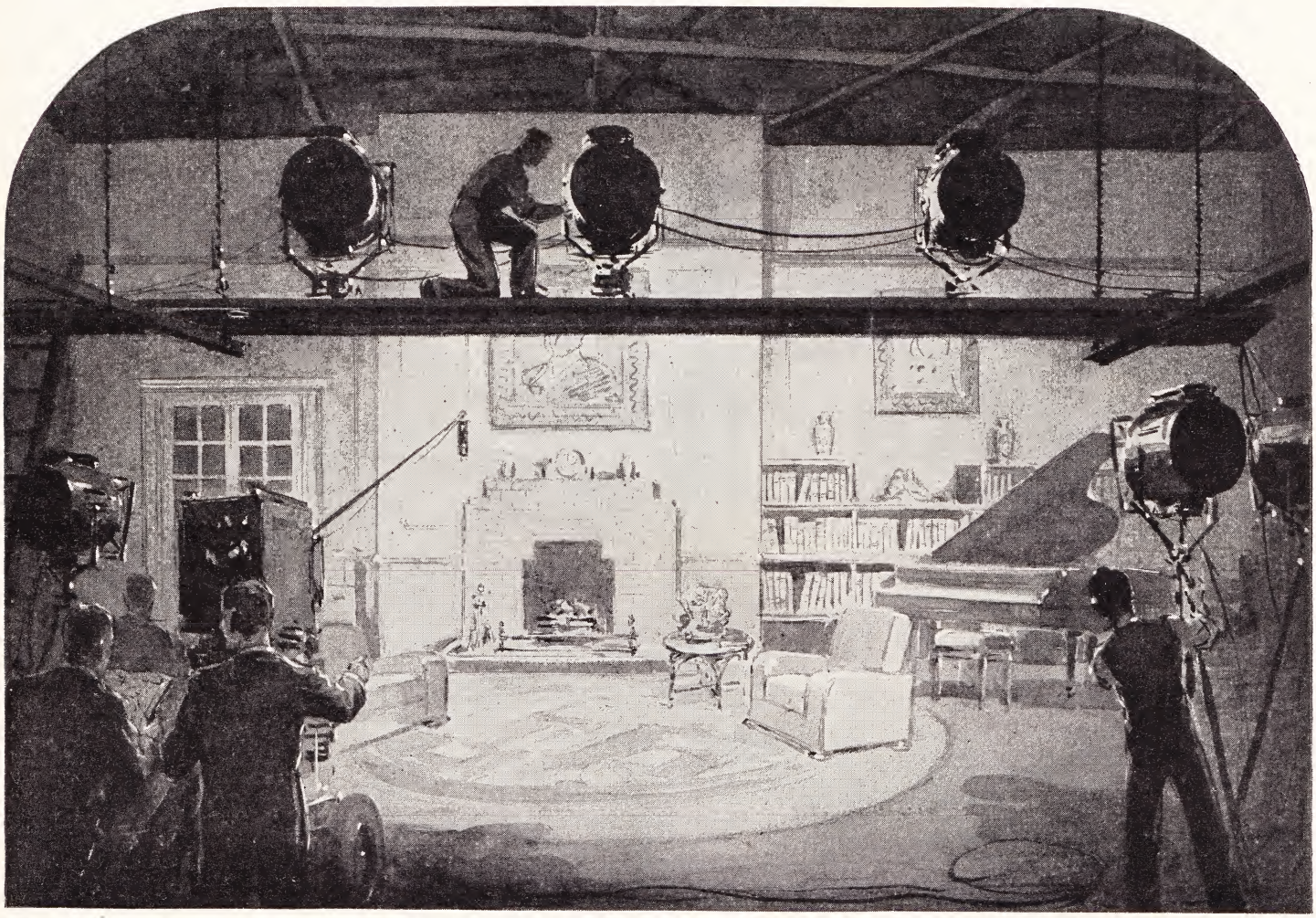
The device made for much greater mobility of the crowd, since each group having certain action to perform, followed its section leader instantly and naturally. It also obviated that bugbear of crowd scenes, the involuntary glancing for instructions towards the control rostrum. Thus time of shooting was materially reduced, and the result was as natural and as lively as could have been wished for. The application of this technique is obvious.

At present we are also at work on a new a quarter of a mile, but we expect to extend that considerably after further development in association with R.C.A.

At present we are also at work on a new camera track, aiming at lightness, mobility and smoothness of operation, and we are conducting experiments on a sound boom of original design which we hope will be far more mobile and less cumbersome. In all this work Fred Turtle, sound engineer, and George Luker, chief electrician, have played prominent parts—but every job has really been a team activity.



The housing and casing of a mercury arc lamp developed by the Nettlefold team in co-operation with Multiple H.D. Industries. An example of successful co-ordination between technicians and manufacturer which has been brought to the stage of steady production



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Reconstruction in the Studios

IMPROVING BASIC SERVICES

THE story of studio reconstruction is by no means finished. The major rebuilding schemes are going ahead, but other studios have their development problems, not the least of which are being tackled at Sound City, Shepperton. Here a major unit is being developed without interruption to production. In this article construction manager Harold Batchelor, in a "Kine." interview, gives the story of what the job has entailed, describes the progress that has been made and gives a hint of future plans which will be carried out when conditions permit.

When Sound City was taken over by London Films, it consisted of four large stages and one smaller one surrounded by a few auxiliary buildings, most of them looking rather bedraggled and battered after their years of war service. Sir Alexander Korda was eager to start production: he was equally anxious that facilities should be improved.

The result was that Vincent Korda evolved an overall plan for the studio as everyone would want it to be. It was not a detailed blue-print, but rather an imaginative sketch of a film-production centre as close to the ideal as could be expected, in view of the fact that, necessarily, it would have to be grouped around the existing main buildings.

Korda's "master plan" visualises two more main stages, two new carpenters' shops, a first-class new tank and other large additions. But these things are for the future. They cannot be attempted until national conditions are very much easier.

Since I have been in charge of construction we have endeavoured only to improve existing service facilities, and that has been a difficult enough task. An immediate need was for scenery docks. Even now, with one new dock nearing completion and another in course of construction, there is not enough room for much material that is accumulating outside the stages.

Our first step was to erect a temporary dock on the principle of a Dutch barn. This is now being panelled in and the job will soon be completed and will be permanent. The other dock is proceeding along the same lines as the first, the primary aim being to get valuable material under cover away from the stages as soon as possible.

We have built, in association with the specialists in prefabricated construction, a new administrative block. These offices are centrally situated. They are light, airy and simply laid out, and they are the best possible job which could be obtained, short of a solid brick building which was out of the question.

Stills and Stables

A large building which I can only describe as a shed and which had at first been used as a plasterers' store was divided into two. One half was converted into a stills studio and laboratory, and Ted Reed tells me he considers it one of the best in the country. The other half was turned into stables. Next to the stills department is now a special-effects studio, simply constructed with a mansard roof and specially sound-proofed.

Close to this hush-hush building a property store has been erected. The construction of this store illustrates the methods and materials which we have had to employ to carry out our work in these difficult times. It is, practically speaking, two Nissen huts with a low brick base turned into one large building. It is absolutely essential to adopt this style of construction as far as possible because of the urgent need to conserve bricks.

Even Nissen huts are difficult to obtain just now, and I have to have the country scoured for material of all kinds. One desperate need is for modern woodworking machinery. Although our present carpenters' shop is spacious, it is ill-equipped for the big job it has to do, between set construction and work for the extension of services. Among items which at present are under construction are a new workers' canteen, to accommodate the greatly enlarged staff, extensions to the sound-recording rooms, and new kitchens for the main restaurant in the manor-house.

Construction Outdoors

The biggest of these jobs is the new canteen which is being carried out by the prefabrication specialists and will accommodate five hundred diners when it is completed. In addition to these undertakings, we are laying roads, have put in a new car-park and have constructed a permanent outdoor lot.

None of these jobs in itself could be regarded as difficult, given the materials, which, as I have said, we obtain by improvisation and scouring the country. The really tricky part has been to get them done without interfering with production. This has sometimes meant housing certain departments in temporary quarters while their new homes were being completed and their old ones converted for other people's use.

It has meant shifting some groups to temporary accommodation and then having to leave them there for what has seemed to them something approaching permanence. The casting office, for instance, is still in a "temporary" hut erected in a single afternoon.

Concentrated Effort

The construction of the lot at the rear of the stages has been a job of which we are modestly proud. In just over a couple of months we converted a virgin meadow into a flat expanse with service roads, water and power laid on and a complete set—the Hyde Park Corner set—erected upon it. This lot will be permanent: already two big scenes are scheduled to take place there in the near future.

To make the lot, four bulldozers, two ten-yard scrapers, three mechanical shovels and numerous other machines and vehicles were used to level the ground; 10,000 square yards of hardcore and 8,300 square yards of tarmac were laid down for the roadways. But it will be worth the concentrated effort to have a valuable outdoor space, fully serviced, within the studio's premises.

All this work has not been carried out without co-operation from officials and contractors. I have nothing but praise for the Board of Trade. All our proposals have been carefully considered and sympathetically adjudicated. I feel that its officials have a genuine regard for what the British film industry is trying to do, and that they have given us all the help within their power.

Problems Settled

The contractors have been invaluable in their co-operation, and when we were making the outdoor location they caught the spirit of the occasion to a heartening extent.

Labour problems have arisen, but they have generally been solved by frank discussions: usually it has been a matter of pride with all workers to achieve the impossible as quickly as possible.

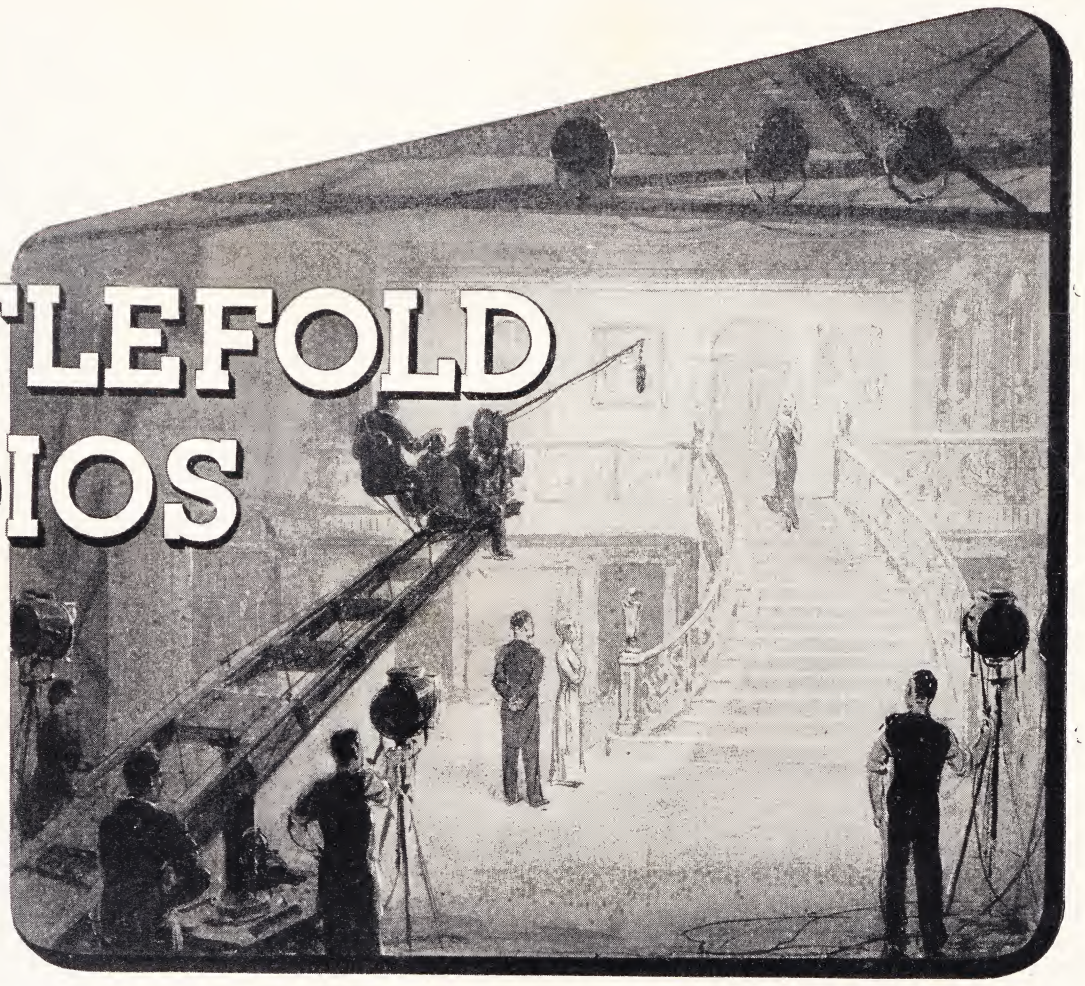
We are now beginning to see a studio consisting of four fine stages surrounded by adequate services. There is still much to do before we approach the ideal visualised by Vincent Korda, but anyone who visits Sound City at reasonable intervals will agree that we have got on with the job.

Harold Batchelor (left) discusses plans for extensions with "Pop" Day, special effects expert, Vincent Korda, and others, at the blue-print stage

Bulldozers and excavators start to clear the Shepperton meadow, while dumpers assist in the levelling

Workers laying the road foundations for the outdoor lot, which, although constructed for "An Ideal Husband," will be a permanent job complete with all services

NETTLEFOLD STUDIOS



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STUDIO SURVEY: CONSTRUCTION PROGRESS

Continued from page iii.

to Balcon, recently returned from that Dominion with the news that the Ontario Government and other official bodies were prepared to welcome and assist British production over there. It now remains for Lou to obtain official sanction from the authorities here, and that may be forthcoming if the international situation eases.

Maintaining a Programme

Gainsborough has an avowed policy of twelve films a year under Sydney Box's regime. Six of the current years' programmes have been completed. "Good Time Girl" is as good as finished; "Rescue" is nearing completion, and "Snowbound" is off to a flying start under David MacDonald. "Miranda" has taken the floor at Islington, and altogether it looks as though this group is making the most of its limited and rather cramped floor space. Box has several properties ready for future production as soon as space is available, and has already done a good deal of preliminary location work on two racing stories.

The London Films group, based on Sound City and Worton Hall, is showing good progress in view of the very high quality of production which Korda insists upon. I have had occasion to remark upon the expensiveness of the settings and appointments for "An Ideal Husband," but it looks as though I may be proved in error in the long-term sense, for I find that Korda, assisted by his art director brother Vincent, who also acts as studio manager, and by construction manager Harold Batchelor, is using much of the material in "Anna Karenina."

In fact, I was most impressed when I visited the studio at Shepperton a few days ago to find how cleverly this reusing of material was being carried out. "Anna Karenina" is planned as a first-class production, and I have been surprised by figures of shooting time per week which have been made available to me at the studio. Korda's apparently casual progress is extremely deceptive.

At Welwyn "'Brighton Rock" has held the floor since March, and is now nearing completion. Associated British switched "My Brother Jonathan" to British National at Elstree, therefore, in order to keep production going. Until that time Lou Jackson had been working on a programme which will be completed when "Three Weird Sisters" is tied up in a few days' time. Jackson is using the time on his hands planning further productions, I am assured, but no announcement of future plans has yet been made.

The Alliance group maintains it good start by having now three studios in action at Riverside, Southall and Twickenham, where respectively "They Walk Alone," "Things Happen at Night" and "No Orchids for Miss Blandish" are in production. All these are moderate budget films with as much emphasis on quality as could be desired for the class of picture. Production at these studios strikes me as being smoothly efficient, and I believe the group has a big future.

Elstree in Action

M-G-M British at Elstree, by many people considered to be the finest studios in the country and also the finest equipped, has at last started work, but not yet with an M-G-M production. Using two of the large stages, the Edward Dryhurst unit is working slickly on "While We Live" and Maurice Ostrer's premier picture "Idol of Paris," is due to go in there on July 14.

At Nettlefold "The White Unicorn" has just been completed only a few days behind schedule, and "The First Gentleman,' for Columbia, has taken the floor. This will be followed by John Argyle's second episode of the adventures of Paul Temple in the autumn. This studio has not had an idle day since it reopened more than two years ago, and it does not seem likely to have one.

That is the general line-up of production at the major studios at the moment. It is safe to say that all floor space available is now occupied, or will be, to be quite precise, when "Premier" goes into M-G-M next week. What can we expect in the way of new floor space in the next few months, to meet the demands which would be imposed by a raising of the quota, which appears to be almost inevitable?

M-G-M British will soon be working to full capacity. Although it has four large stages, it is doubtful if it could support more than two major productions simultaneously in its present state of equipment, since construction of service buildings is still in progress.

Rebuilding Progress

The opening of Twickenham has given us another moderately large stage; and I saw, when I last visited the "No Orchids" unit, that every possible use was being made of the limited out-of-doors space for exteriors. But this studio can certainly not hold more than one production at a time. It is well equipped and its single stage of 11,200 sq. ft. will accommodate all but the most spacious effects, but it is not a "big picture" studio in the physical sense of the term.

A reminder of the crisis days: a mobile generator in action at British National Studios during the fuel emergency period

A.B.P.C.'s Elstree studios show progress every time I pass by, but the building and reconstruction programme there is ambitious and comprehensive, and I shall be surprised if the outfit is entirely ready by next Spring, which was the last date I heard for the opening. Sorely as we need floor space, I think it will be wise of A.B.P.C. to not skimp the job at the end for the sake of a two or three months' earlier entry.

From what I have seen of the reconstruction, I think there is no danger of that, and when the studio does open, its total floor space of 60,000 sq. ft. distributed over four stages, will mean another two major productions simultaneously on the floor and, I hope, continuously.

Teddington is almost completely ready for production, and the last date I was given for the start of production was July or August. It seems likely that Warner will open by leasing the studio, as no information of any immediate production plan can be obtained. However they are used, the stages will be a useful addition to our all too small total. A third stage is to be built there shortly, but its availability is a matter for the unspecified future.

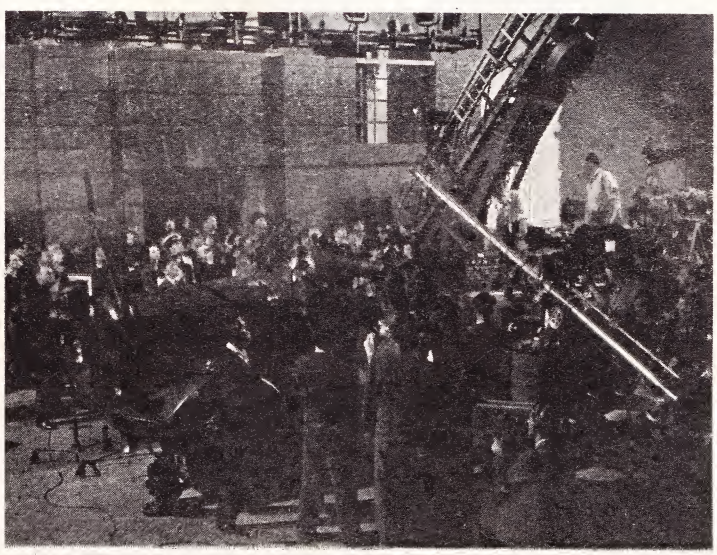
Calculating from these facts, one can estimate that for the next nine months we shall have floor space available for four more films than we had three months ago, and that we can count on space for a further two films from late next Spring.

Possible Total

So far, 21 films have been completed this year, but it must be remembered that some of them were well advanced in production when the year started. As I have already stated, 26 films are now in production, some of them only recently started. This gives a total of 47 films for the year, to which must be added any others which may be started and finished in the remaining months.

It is not possible to make any estimate approaching accuracy of what that number is likely to be—as I have already said, producers are reluctant to disclose precise plans just

Continued on page xiii



Co-operation by public services helps to ease difficulties and speed production. This picture shows the N.F.S. lending a hand at Worton Hall for a dramatic fire scene in MINE OWN EXECUTIONER. The loan of the large escape meant a more spectacular scene

G.E.C.

DEVELOPMENTS IN STUDIO ARC LIGHTING

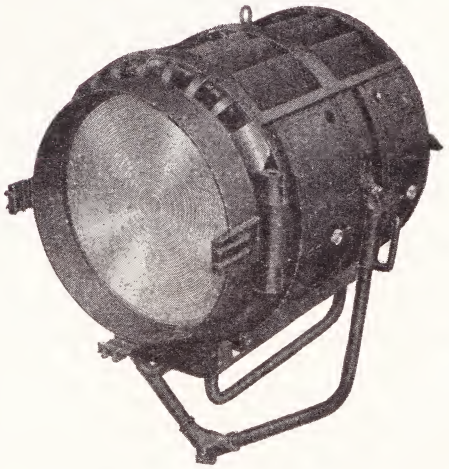


Fig. 1. Complete Arc Lamp ready for use.

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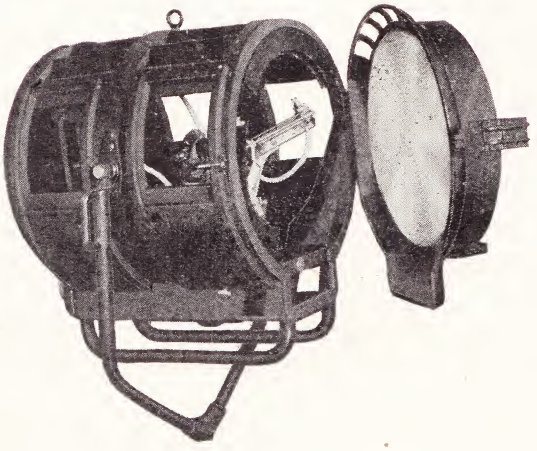
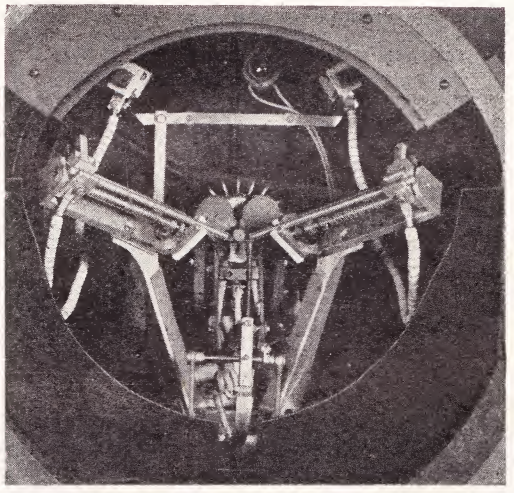


Fig. 2. View showing the hinged front open for cleaning and the sliding doors which allow recarboning at any angle without altering the tilt.



This illustration shows the door removed to give a clear view of the assembly of the positive and double negative carbons. Note the baffle for directing clean air over the inside surface of the lens, which keeps it free from fume. (Also visible in Fig. 2.)

The range includes 5kW., 2kW., and 500-watt incandescent studio spotlights—3-lamp, 2-lamp, and single light broadsides, and a 150-amp. double negative arc.

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STUDIO SURVEY:

SAVING FLOOR TIME

Continued from page xi

now. But from such information as I have been able to glean, on and off the record, I cannot see that the number is likely to be greater than ten, at an optimistic estimate.

This would give a total of 57 films as a year's output from the major studios. Still calculating optimistically, one can add to that another ten from the minor studios, such as Marylebone, and the result is a maximum of 67 films in the year.

Even including the new floor space that has just become available, or which will come available early enough to give a completed production this year, and the estimate cannot amount to more than 70 films for 1947. Add, from next Spring, A.B.P.C. Elstree with a two-films-simultaneously capacity, and add the one or two British films made out of this country, such as "Eureka Stockade" and "Corridor of Mirrors," and you cannot even at the most optimistic evaluation estimate a total British production of more than 80 films for 1948.

How does this total square with possible requirements of a stepped-up quota, and a possible restriction of Hollywood films, due to an import duty? Obviously, the responsibility placed upon the British film Industry will be very great.

Suppose that both or even only one of these things happen, and our production Industry will be faced with demands such as it has never before had to meet. What chance has it of providing an increase of production in the face of the seemingly incontrovertible facts just given?

Saving Shooting Time

Plainly, all that it can do is to cut down time on the floor. This can be done in several ways. Films can be planned less ambitiously and, therefore, made to shorter shooting schedules, but I have already pointed out the danger of such a policy.

Productions can be planned so that as much shooting as possible can be done out of doors —and that is something that is already happening. Where at one time, say, a country house would be built in a studio, to-day units are going out to actual country houses and getting their sequences on the spot. Much more exterior work is being done now than ever before. Pictures like "Scott of the Antarctic," "Against the Wind," "Snowbound" and "The Blue Lagoon," soon to be filmed almost entirely in the South Seas, relieve the studios of much pressure on floor space.

From this point it is possible to envisage a larger number of substantially open-air subjects being planned than has been the case in the past. This would be a wise move in any case, since such subjects are usually popular at the box-office. And, of course, it is always possible to go abroad for some of these pictures, provided that the labour question can be satisfactorily arranged.

Another method of cutting down floor time is one which has been tried at several studios, and notably at Pinewood and Ealing. That is working with two units. This does not mean necessarily halving production but it does, with careful planning of set erection, mean a considerable saving.

Do We Lack "Snap"

Finally, one can sacrifice quality for speed, even on the most ambitious production, by accepting the not quite perfect set and the not quite perfect take. But there will be few, if any, producers, I think, who would contemplate this step at a time when our pictures are enjoying such high approval throughout the country.

All this assumes that in every instance at present, production is proceeding with automatic and faultless efficiency. In an increasing number of instances that is almost true, but there are still pictures which are ill-planned when they arrive on the floor and therefore take much longer to complete than they need. And there are still studios where the response to demands for action is sluggish. In fact, I am told by men who know the studios of both this country and the United States well, that there is a general lack of "snap" in the response of our workers. I am not in a position to substantiate this: I would only say that every effort should be made to refute this statement.

As I write, there are two labour moves in progress that will make film Industry workers better off than they have ever been. The N.A.T.K.E. agreement is on the verge of being ratified, and A.C.T. have put forward a series of proposals for revised rates and other conditions that, even if they are met only in part by the producers, will mean quite enviable conditions for technicians and similar grades of worker.

Equipment Improving

Monetary considerations aside, the 44-hour week is on the verge of being an accomplished fact. It is a great achievement on the part of the workers' negotiators. But what will be the effect upon production? Can this Industry be run to a set hours schedule and still maintain output? Those are large questions, and I can only say that the workers themselves have given pledges that production will be unaffected. It leaves a great deal up to the individual.

In ancillary matters to actual floor work I notice considerable efforts to save costs and cut down shooting time. Components of elaborate sets are now being saved and used over again in subsequent productions. Considerable investigation is going on in the use of substitute materials and improved machinery. More modern equipment is becoming available in increasing quantities, and much of it is British. Most of this apparatus has already been reviewed in KINE. Studio Section Supplements, but it is now in steady production. The situation here is heartening. I wish I could say as much for the supply of materials.

Whether the revision of the Act or the imports duty, if and when they come, will take such a form that it will be advisable to give a fillip to British production by easements of restrictions and increases of supply of essential materials and even of skilled labour, is a question that no one can answer at present.

To speak of the building of new studios at this time seems like asking for the moon, but the position may arise where more floor space is essential not only to the Industry but to its national effort. If that time comes, it is to be hoped that the authorities will consider the possibilities of prefabricated techniques and conversion schemes as short-term emergency measures

Efficient Conversion

The Blakeley studios at Rusholme, Manchester, are a modest example of what can be done in the way of conversion. Here a disused church and its attendant buildings have been converted into a workmanlike studio with two stages, small but efficient, and various services. This enterprise which took only three or four months to carry out has given floor space for four or five more films a year of a modest but profitable character, to judge by Blakeley's previous output.

Mention of the Blakeley outfit reminds me of the several small studios, such as Marylebone, Carlton Hill, Knightsbridge, Highbury and Bushey. Should there be a separate quota for second features, these studios will find themselves increasingly in demand.

Already, Marylebone has accommodated the first of a projected series of better-class second features from D.S. Productions. Digby-Smith, the producer of this film, "The House of Dr. Bellhomme," is an enterprising young man, and he has gathered a useful team around him. His opportunity may be much greater than he expected when he decided to concentrate on the little "bread-and-butter" pictures.

Rank's Second Features

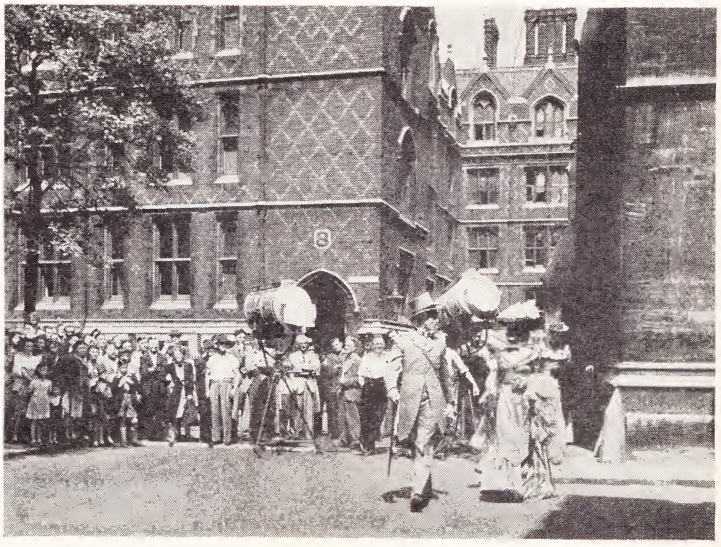
During this month or next, Highbury is due to start its career as Arthur Rank's second-feature factory under the guidance of John Croydon. This outfit, too, has plans for making good-class films on a limited budget, with promising young technicians and players. Croydon says that his range will be wide and his equipment heterogeneous, mainly scrounged from the major Rank studios.

Continuity of talent is almost as important just now as floor space. Every producer will tell you that there is a shortage of skilled man and woman power, from stars to craftsmen. Skill is at a premium in this Industry, as in almost every other one.

Producers are particularly concerned about ensuring the flow of skill by developing young people with ability and enthusiasm, because slow and indifferent workmanship, in whatever department, means increased time and increased costs. Fortunately, for the craftsmen and technical grades, the apprenticeship schemes which have been discussed for so long between the B.F.P.A. and the unions are almost complete.

As for players, there are already the Company of Youth, the Rank Charm School, Mr. Korda's Contract Girls, and only recently set up A.B.P.C.'s talent-finding and developing committee. It does not matter by what fanciful names these organisations are called, they are basically doing a good job.

On the whole, reading through this review, I find that the general tone is optimistic. That optimism, I think, is justified, in spite of the many hazards.



Production is going out of doors much more these days. Where possible shooting on the actual scene in the film means floor time saved. Here is a sequence from Two Cities' THE MARK OF CAIN being shot in Lincoln's Inn Fields. At one time this would certainly have been "faked" in the studio

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The KINE. Gives the First Inside Glimpse of

M-G-M-BRITISH STUDIOS AT ELSTREE

A Survey of the Plant Which Will Handle £31,250,000 Production Programme During the Next Ten Years

By Our Own Reporter

What has been going on for the past two years at the M-G-M-British Elstree studios? To-day the "Kine." presents the first inside account of what has been done and what is planned for this very important link in the chain of British film-making. At a time when all sections of the Trade are talking quota, it is vital that every piece in the jig-saw should be available. This survey provides the background to one section of the British production set-up which will be responsible for making more British films available in 1948-49.

THE large and strategically important M-G-M - British studios at Elstree will not be in full production order and capable of servicing a heavy programme of first-grade feature pictures until the end of the year, and probably as late as early 1948. Reports reaching the KINE. this week from the U.S. say that Ben Goetz, managing director, who is now making final production plans for the British plant with the Metro people in Culver City, will handle a £31,250,000 programme during the next ten years.

The first picture is said to be "Young Bess," which will star Deborah Kerr. When it starts it will do so on three of the most well-equipped sound stages in the country, in a studio which, during the past 18 months, has acquired the cream of British technical skill.

One Picture a Time

But the studio will not be able to make more than one big picture at a time until it has put up further stages. I believe two of these have already been planned; but the Board of Trade said this week that to date no building licences have been issued for new stages, although work is going ahead under licence on a large scene dock. The whole position of new stages is still in the balance for all British studios, and the Board held out little hope this week of any immediate improvement in the situation.

The Metro plant is, without doubt, the best planned in the country.

In the centre of the lot is the power-house, turning out 11,000 volts and capable of providing light and power for a small town. Both men and women crowd artist rooms are in this block.

On either side of it are the four stages. Stages 1 and 2 are to the right, stages 3 and 4 to the left. The first three stages, heightened by some 12 ft. during reconstruction, are 196 ft. long by 96 ft. wide. Stages 1 and 3 have a dividing panel, splitting the stage into two, of 120 ft. and 76 ft. in length respectively. This provides a total production area of 56,448 sq. ft., which—for comparison—is a little more than half the production space at Denham, and some 25,000 sq. ft. more stage space than at Shepherd's Bush.

These three stages are in superb condition, with new electrical installations throughout, including a vast ventilation system. They are flanked on facing sides by three-storey service blocks—offices, camera-rooms, cutting-rooms, and dressing-rooms. Lifts connect each floor, and most of the offices are equipped with admirable furniture.

The fourth stage suffered most during the war years. It is not to be used for shooting. Instead, I believe, it is to be converted into a music stage and a special effects stage. There are at present no facilities for large music recording and dubbing sessions.

Two theatres (one is halfway renovated) are situated side by side between the central power-house and the front white-towered general office block. This central area possesses a large glass covered way.

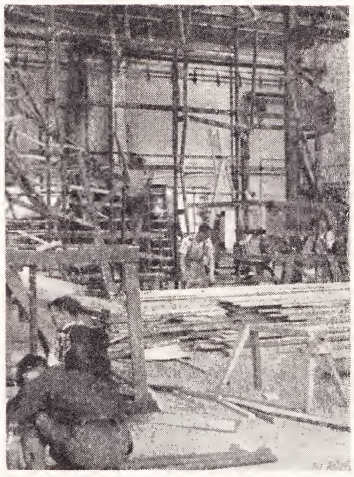
The shops stretch along the rear of this group of stages and offices. There is a carpentry shop of some 200 ft. by 90 ft., where latest equipment is in use at the 30 benches. Behind this, on the lot proper, builders have nearly completed the steelwork for a scenery dock. The studio, allowing adequate space for its shops, is concentrating on highly organised prefabrication of sets so that actual construction work on the stages is reduced to a minimum.

Further Construction

Plumbers' shop, general stores, engineering department, special effects wing (not yet ready for habitation, this one), and the still studio flank either side of the carpentry shop. The plasterers, still within easy reach of every stage, are to the right of this rear block of buildings. On this side is a large lot area, stretching to the gate, which, apparently, is being made ready for future construction work.

That's how the studio looks. But it is the equipment which is a deciding factor on how efficient a studio may be.

Much new gear—some of it revolutionary in design—has come to the studio from Culver City. Allocations from British manufacturers are, in many cases, still outstanding. It is no easy job stocking a complete production plant from scratch. The lesser items, such as cables, all provide a gap in the service.



A section of the large carpentry shop which is about 200 feet by 90 feet wide. There are nearly 30 benches. Most of the building for the sets is prefabricated here

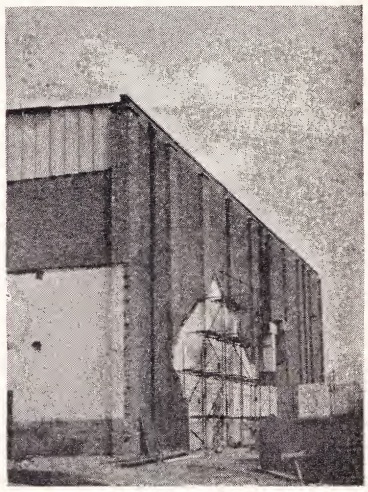
The sound recording department is in the hands of A. W. Watkins, who was previously at Denham. The Western Electric engineers have put in equipment of a 200-mill push-pull type. Two channels were sent over from Culver City, where they were modified and brought up to date. They are extremely portable and possess the latest limiting devices to control the volume of the recorded signal, which considerably facilitates the job of the mixer.

This gear, although ahead of many British studios in design, is not permanent, apparently. New gear is expected by the end of the year. As yet, while still in its infancy, the studio has no mobile recording unit for location work. When the sound department is brought up to full strength there will be a 200-mill push-pull system throughout, with a ten-head dubbing channel.

The studio, I believe, contemplates adopting the split-film recording method—two tracks on each spool. This, it is estimated, would save thousands of pounds a year on recording stock. It means, however, that the recordist cannot open the head for inspection or manual marking after a new spool has been started.

The sound department has two of the new Mole-Richardson booms, with two more on order. There are also two portable Films and Equipment type.

The camera department is supervised by Freddy Young, whose last lighting job before he joined Metro was "So Well Remembered." Young has all his cameras coupled with the sound gear rather on the Rank group's principal of "silent turnover." No clappers are used during takes, automatic light marks checking on picture and sound tracks. A buzzer indicates when camera has reached the correct speed.



Stage 4 which is to become a music and special effects stage, was, as this "Kine." picture shows, most damaged by the war

The Latest in Lighting

I was surprised at first that the studio has not made use of the recently made high-pressure mercury vapour arcs, which, through their silence, have considerable operating advantages. Young's opinion, however, is that these are by no means perfected yet.

The studio has Mole-Richardson and R. R. Bear lighting gear in use. More has still to be delivered.

The camera department itself has four new Mitchell cameras, with two Vinten velocitators.

One of the prize pieces of apparatus is the R.O. crane, so popular in Hollywood studios. This was made by Bill Williams and his staff in the well-equipped M-G-M engineering shop, under a special licence granted by the U.S. company. The crane is light, very manœuvrable, is underslung.

Hugh Steward is the supervising cutter. He is at present on loan to the Sir Alexander Korda outfit. Douglas Robertson is at present editing the film "While I Live," which Edward Dryhurst Productions is making in the studio. The cutting-rooms are large and equipped with Moviolas, all of which are in perfect condition.

But the backbone of the whole plant is its first-rate team of technicians. People like "Skeets" Kelly and Chris Doll are in the camera department; Bernard Robinson is among the art directing team now in the studio; Guy Pearce is in charge of make-up, with wife Pat Pearce looking after the hairdressing; and Dave Boulton has what must be the best studio still set-up in the country.

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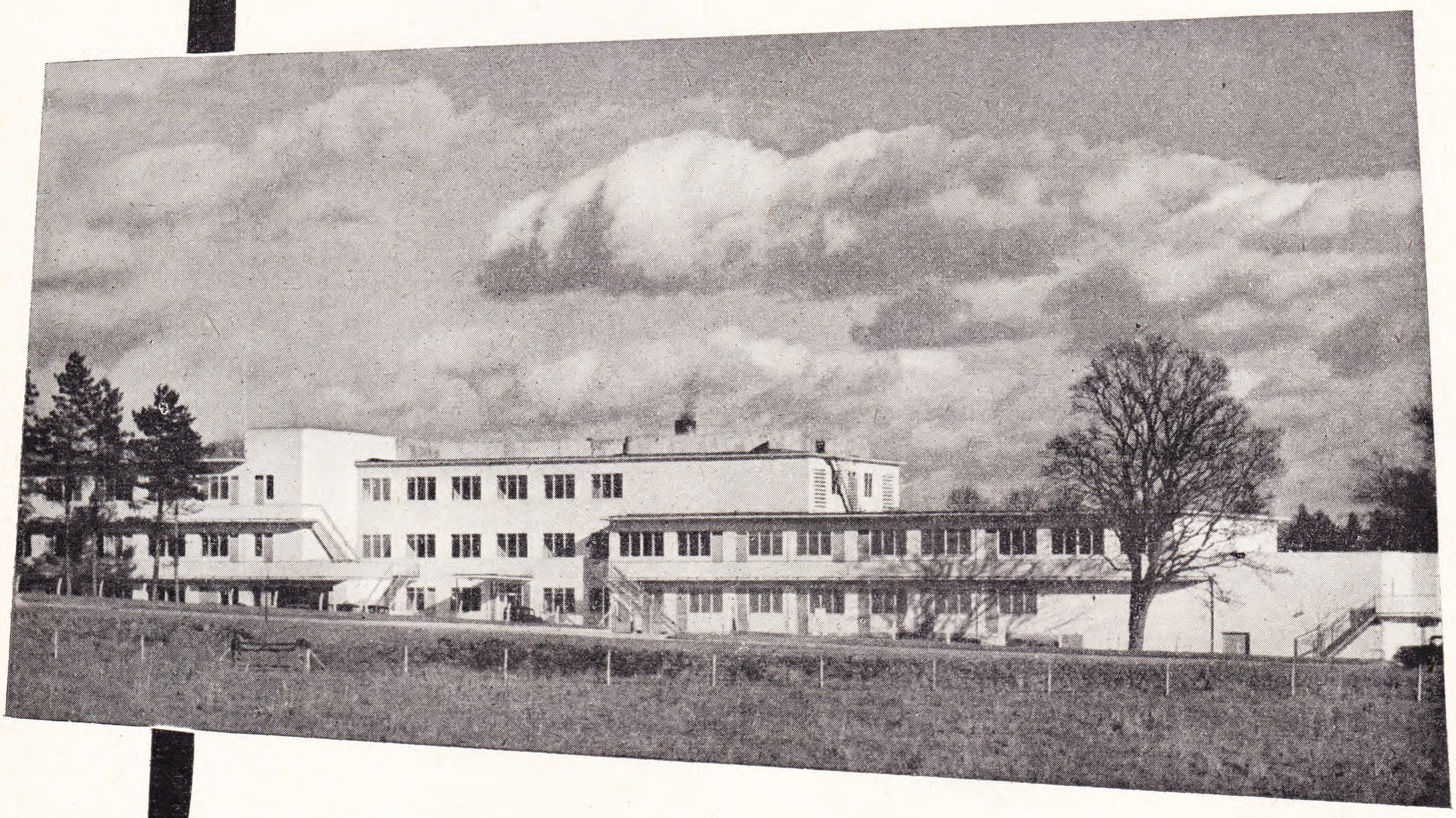

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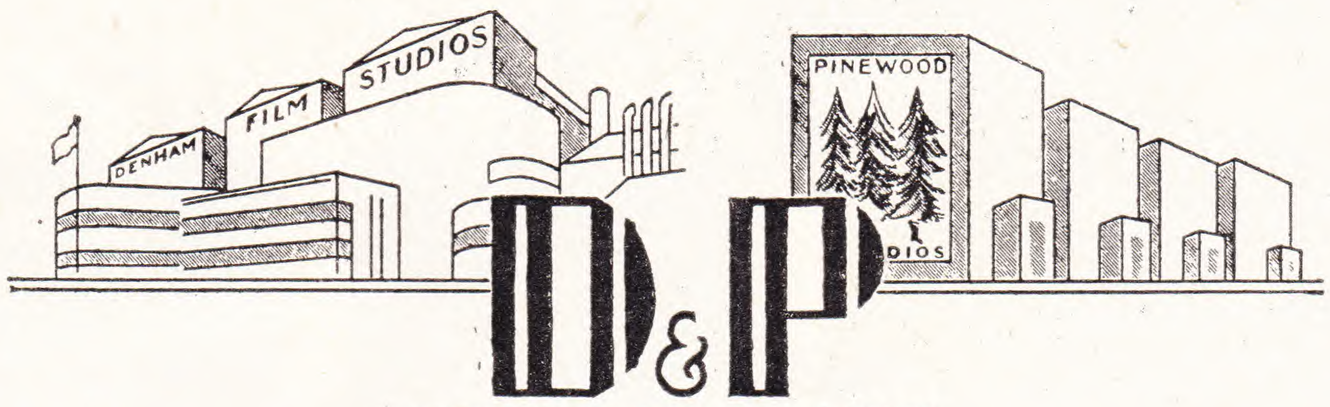

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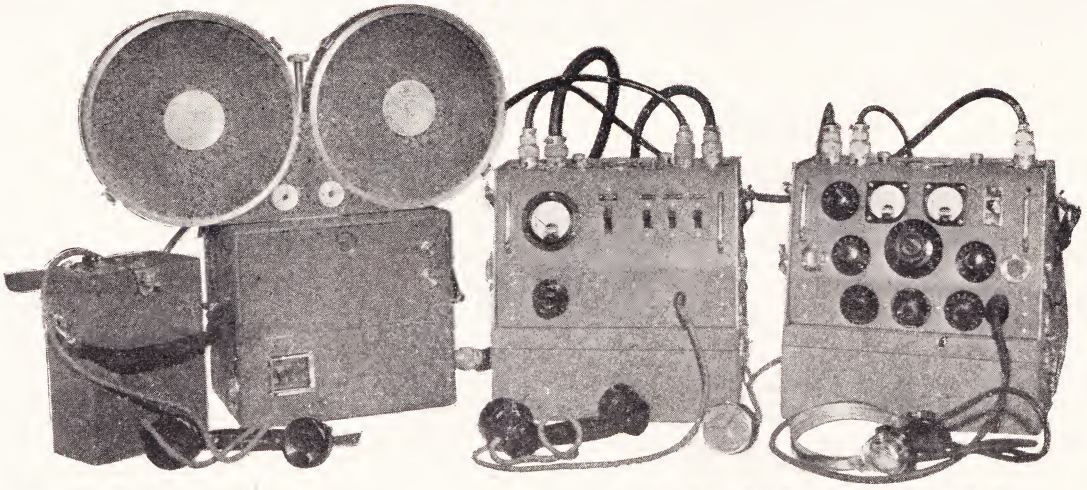
"The Mark of Cain."
"The Woman in the Hall."



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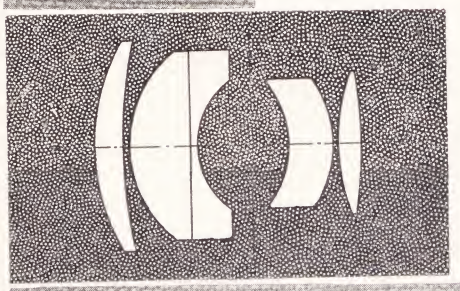

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R. HOWARD CRICKS REVIEWS
NEW TECHNICAL DEVELOPMENTS
TELEVISION IN THE STUDIOS: NEW MERCURY LAMP

THE often repeated suggestion that the picture, like the sound, should be picked up on the floor and recorded in a centralised recording room was brought a step nearer by a new television camera, demonstrated by Pye Radio at the small exhibition arranged on June 27, in connection with the jubilee celebrations of Nettlefold Studios. It will be recalled that some months ago a description of a television monitoring system made by Pye, and temporarily installed at Nettlefold's, appeared in the KINE.

It was unfortunate that Cecil Hepworth himself, who first produced films at Walton in 1897, should not have been present. Always in advance with technical developments, he would have found it particularly fitting that this new principle should have been demonstrated in the studio where the first automatic developing plant was made and where, probably, artificial lighting was first used to the exclusion of daylight.

High Sensitivity

The present camera is not designed for monitoring, although no doubt it could be easily adapted for the purpose. It is quite a compact piece of apparatus, smaller than the average kinema camera. It is provided with a four-lens turret, the lenses being noticeably of small diameter; in other words, of shorter focus than hitherto, and of quite small aperture. The former point suggests that the image on the Orthicon tube is quite small—actually, it is about 2 in. wide—while the small aperture of the lenses is made possible by the high sensitivity of the Orthicon.

I was assured by H. Lawrence, who assisted B. J. Edwards in its development, that 20 foot-candles provides adequate intensity. The new camera has thus overcome the objection I urged against the previous model: that the sensitivity of the latter was not sufficient to enable the picture to be viewed before the main lights were switched on.

At the back of the camera is a large cathode-ray tube on which the picture is viewed, rather like an oversize viewfinder. This picture can, of course, be repeated at any number of points. The present standard of definition is only 400 lines, which is agreed to be insufficient for picture recording, although adequate for monitoring. However, it is hoped later to progress to 1,000 lines, which is thought adequate for recording to the highest standards.

The Everest Proving Itself

The Pye camera was close to the Vinten Everest, which over a number of months has proved itself at the Nettlefold Studios capable of first-class work. Charles Vinten showed himself very interested in the television camera, which he agreed ought, for monitoring, to be built inside the film camera, with the lenses close together (or, preferably, using the same lens, as in the present viewfinder system of the Everest), so that, for instance, if the camera is slung aloft upon a high parallel, the director and continuity girl on the floor can see actually what the camera sees, as will also the editor in his cutting-room, the sound recordist, the producer in his office, and anybody else interested.

I was, incidentally, interested to learn from Mr. Vinten that, in addition to the Everest camera being supplied to Pinewood, one is being sent to the Columbia Studios, Hollywood. Mr. Vinten himself has just returned from India, where he found considerable interest in all his equipment.

Behind these two pieces of equipment, and behind also a G.K.21 projector (which Leslie Woodgate, of G.-B., had the privilege of explaining to Margaret Lockwood), was an array of historic apparatus. Early cameras by Moy, Prestwich, and a German maker were out-dated by a queer perforator, in which the punches both made the holes and moved the film, working in the manner of claws. The Debrie Jacky projector—possibly the last of the dog machines—was unknown to many of the present generation of technicians. Early sound equipment was also shown.

New Lighting Units

A display of lighting equipment ranged from Westminsters to modern inkie and arc units. It was surprising to realise that only 20 years ago, Cooper-Hewitts were in general use; twin and six-light mercury fittings were shown. The modern equipment included Mole-Richardson arcs, and a range of incandescent units, in their handsome and lightweight casings, by Multiple Industries, which in their dozens adorned a near-by set.

An interesting design by the latter firm was demonstrated to me by Stanley Double: an H.I. arc lamp which, instead of tilting on the usual trunnions, had a tubular body, which, with the mechanism and controls, rolled round inside the circular end flanges.

Whatever the position of tilt, the controls were quite accessible, while an image of the crater was projected from a small periscope inside the hub of the right-hand flange upon a flap at the front of the lamp. A modification of the usual shape of trunnion enabled an incandescent unit to shine vertically downwards, as is so often necessary.

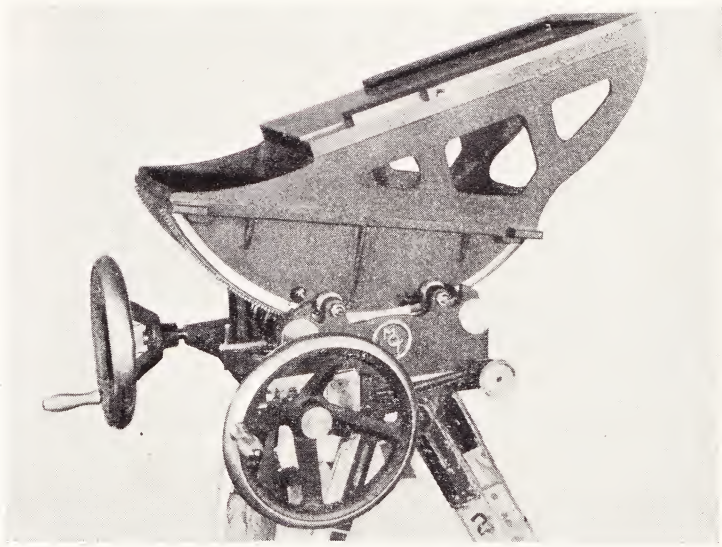
A Compact-Source Lamp

Of chief interest here, however, was the new mercury unit, also made by Multiple Industries, which Stan Double and H. J. Hewitt vied in demonstrating to me. It included a B.T.H. compact-source lamp, contained in an oven in order to permit of simmering at low current (quite a culinary sound!). At any moment it can be switched on to full load, and the movement of the switch automatically lifts a dowser.

For starting, a 15-kv. surge initiates the discharge. In order to avoid any risk of personal danger with such a high voltage, special circuits have been devised whereby the high tension cannot be switched on until the lamp is earthed. Further, since many studio supplies are 3-wire, and consequently the earthed pole may be of either polarity, a change-over switch is provided for the earthing connection. As a third precaution, the lamp will not strike unless the connections are of correct polarity.

With this lamp, as with any lamp, accurate voltage control is essential if the light is to be sufficiently constant in colour temperature for colour filming. Therefore, the resistance has tappings at 110, 112.5 and 115 volts to allow for voltage drops in studio mains.

The theme of the exhibition, it has been mentioned, was the Nettlefold Jubilee—1897 to 1947; but it will be agreed that there was more than a hint of 1948. The display should be made available to a wider and more technical audience.



A newly designed tilting and panning head suited to heavy cameras, such as the Technicolor, by Ernest Moy. Tilting is effected on a quadrant supported by two shafts running on rollers and stabilised by further rollers. Panning is worked through a worm drive, tilting through a reduction gear

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COLOUR: FUTURE PROBLEMS

Basic Photometry—Lighting—Maintaining Balance in Exposure and Processing—Individual Problems

THIS article, the title of which is self-explanatory, is by T. Thorne Baker, F.Inst.P., A.M.I.E.E., F.R.P.S., a consulting chemist who has made photographic research a special study and is one of the foremost colour experts in this country.

Kine processing laboratories that take a long view must be thinking a good deal just now of the coming changes in technique that will be involved when 35-mm. colour film stock becomes generally available. Although it is 40 years since the Schinzel brothers heralded the three-layer monopack in their remarkable series of articles in *Das Lichtbild*, the monopack has only recently given a promise of sufficiently wide distribution to make certain its eventual adoption in the kine studio.

The modern colour film tends essentially to consist of three coatings of silver halide emulsion on kine base, which may or may not be separated from each other by thin intermediate coatings of gelatin. One such coating of sensitive blue-violet emulsion contains a substance which is responsible on processing for producing an image of a yellow dye with the products of development. Yellow is, of course, the *complementary* colour of blue-violet. The layer beneath is of a green-sensitive emulsion containing a dye coupler that will yield a magenta (or minus green) image.

The last coating—that next the base itself—is red-sensitive, and contains a minus red or "cyan" coupler which causes the processed image to be blue-green. On removal of any reduced silver, which is black, images that are composed of dyestuffs alone remain, giving the great brilliance associated with this type of film.

It can be readily understood that a delicate balance is needed between these three layers. Each layer is actually a colour separation negative, and all three layers must give images of similar gradation and density. If the monopack film is developed as a negative, the images will be separations in complementary colours.

A good deal of experience will be necessary to form a useful judgment of the quality of a negative in which faces are green, skies are yellow, green foliage crimson, and so on. The negative *can* be reversed in the processing to a positive, when the colours become true-to-life. Prints must then be reversed also in processing.

The kine print is most likely, however, to be made from a negative developed straight in complementary colours; these become automatically reversed to true-to-life colours by straight developing of the print. In addition to colour-from-colour processes, the laboratory may be called upon to deal with colour separation techniques from integral tripack originals, such as the new Ansco one-strip colour separation film stock.

Each technique has its advantages, each its drawbacks. But in processing, whatever way the "negative" and "positive" be made, a balance between the three layers of gradation, density range and colour saturation is indispensable, and, as we shall see, this does not merely depend upon lighting and lens filters.

Table for Reference

As regards balance, the table below will show what exacting demands are made in the making of a three-layer monopack:—

Top layer.—Emulsion colour-sensitized for blue-violet. Contains a colour-forming substance, giving yellow on development. Has the "key" speed.

Mid-layer.—Emulsion colour-sensitized for green. Must be filtered by yellow intermediate coating or by yellow dye in emulsion to suppress action of blue-violet rays. Must be speeded up to allow for loss of light in passing through top layer and filtering element.

Back layer.—Emulsion colour-sensitized for red. Must be filtered by red dye to cut out any action of violet, blue and green rays. Must be highest possible speed to make up for double loss of light in passing through the two upper layers and the filters.

Now, assuming that the three layers of the film are so adjusted in speed that the exposure for the upper (blue-sensitive) film suffices to expose the green- and red-sensitive layers to the equivalent degree, we must contrive to give development to an equal gamma and equal overall density in all three layers. If we assume that diffusion through the emulsion layers and separating gelatin layers

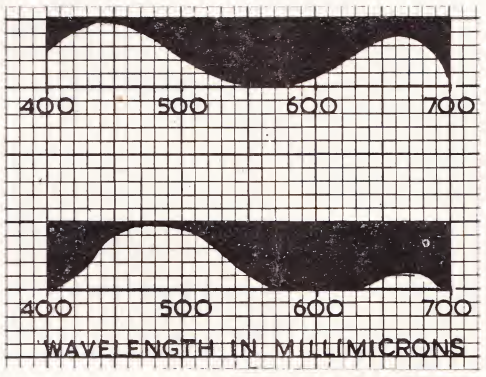

Diagram showing the effect of introducing two chloride atoms into the alpha-naphthol dye coupler. This has the effect of turning a violet-blue and red into the cyan needed in colour photography

is so quick that all three emulsions develop simultaneously, and if we take for granted that each emulsion gives the same contrast and gradation for a given time of development, we still have to depend upon the exposure being correctly timed.

The monopack will be adjusted in manufacture to respond to a definite colour temperature, and the use of a colour temperature meter in the studio will be almost indispensable.

Although a certain amount of correction for incorrect colour rendering is possible in printing, it is obviously desirable to make the negative as accurate as possible, and to arrange for illumination in the studio of the colour temperature for which the film was designed. This is infinitely better than trying to compensate for light of a different quality by means of a correcting filter.

Shortly before the war, considerable use was being made of colour-temperature meters in the studio, in order that lens filters could be used to ensure correction of any spectral out-of-balance, otherwise to contrive a mixture of illuminants to give an approximately white light. The term "white" is, of course, very elastic. Amateur colour films and cut film for colour stills have been made by the Eastman Kodak Co. for daylight or half-watt light; in projection the sub-standard machine, with projection lamp, is, of course, definitely "yellower" than the theatre projector with arc lamp.

It is not difficult to guess that the final screen rendering will be something of a compromise in all except the most scientifically controlled projection. We must also bear in mind that screen brightness in itself varies the colour rendering on account of the Purkinje phenomenon.

Colour Balance Variation

Assuming that studio illumination and lens filters have been co-ordinated to give perfect colour recording for ultimate projection by arc lighting of a standard colour-temperature, what weaknesses are there in the processing of the "negative" and the making of the print? In spite of the highest technique, it is well-nigh impossible to obtain (*a*) the speed in a three-layer monopack film of the fastest single-coated panchromatic stock, or (*b*) the latitude in exposure.

While the need for giving relatively more generous exposures on account of "*a*" assists in reducing exposure errors, the fact remains that even with slightly diminished latitude there is a tendency for the film to go off-colour-balance in the shadows and high-lights. Compromised lighting of the set can, of course, help here. This tendency for the two ends of the luminosity scale to be off-balance may also be emphasised by certain peculiarities of processing.

Any sort of monopack film should be always processed with the particular formula recommended by the manufacturers; there are certain chemical reasons for this which do not come within the scope of the present article. But the colour balance in an otherwise perfect colour film may be largely falsified by the use in processing of unsuitable solutions. Just how the composition of the first developer, for example, may affect the colour of the image may be seen from the case of the simple coupler alpha naphthol. If this be incorporated in the film layer as the "blue" colour coupler, then if we develop with

paraphenylene diamine we get a purple image;
paratoluylene diamine we get a blue image;
paradimethylamino aniline we get a bluish-green image;
paradiethylamino aniline we get a cyan image.

Similar colour differences can be produced in the case of the red and the yellow image layers. One of the finest red (magenta) colour coupling agents is paranitrophenyl acetonitrile. Used with diethyl paraphenylene diamine as developer (probably the most popular of all colour developers) this gives an almost perfect minus green; but substitute for the developing agent such a substance as the simple paraphenylene diamine, the colour becomes orange-yellow.

It will thus be seen that colour processing must be carried out on a predetermined basis, and this not only in development, but in certain of the many after processes involved; the importance of a controlled pH in stop baths is an instance. When the image is reversed, and a positive-positive copying technique is adopted, accurate chemical control in most stages is still more necessary.

The increased number of operations that are at present involved, especially with reversal processing, require consideration from a plant viewpoint. Even in Agfacolor negative-positive work there are ten distinct operations. Whether tubes or tanks are likely to prove more economical from a laboratory *space* consideration, facilities for a fairly high standard of temperature control must be kept in mind.

The increased time of the complete cycle of operations, which can run into 30 or 40 minutes or more, must be remembered. Reducing the number of operations and their simplification are matters, needless to say, which are occupying the attention of those concerned.

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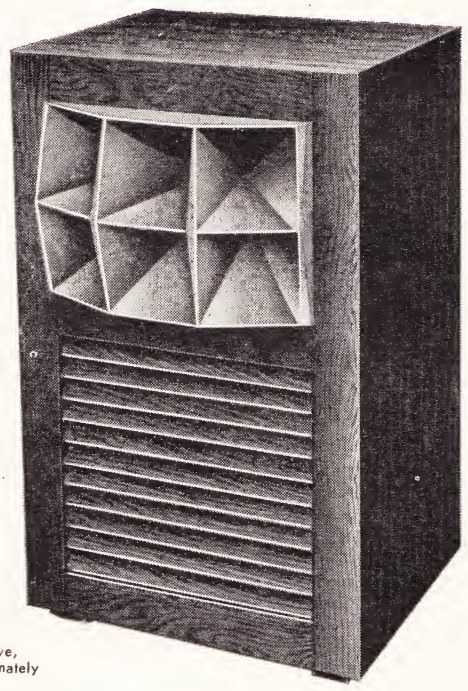

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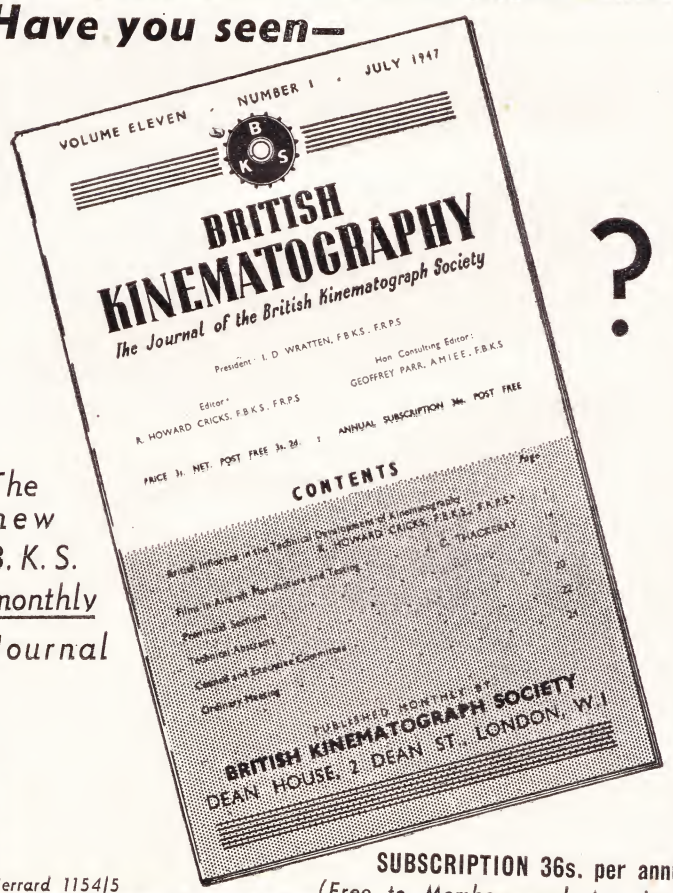

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INSIDE VIEW OF A LARGE MUSIC RECORDING STAGE

THIS article describes the conversion of Denham's Stage One into a "scoring stage," and also gives a graphic picture of an orchestral session and the recording of it. The author, John Huntley, of the Denham Music Dept., is British correspondent of the National Film Music Control of America and film music correspondent for "Penguin Film Review."

As film music became an increasingly important part of every picture, it became desirable to use a full symphony orchestra of, perhaps, 70 or 80 players, with possibly some extra percussion for special effects, and maybe even a large choir. For such recordings even Denham's "Theatre One" (a fine music theatre) was quite inadequate. Simultaneously, other film studios around the country outgrew the accommodation built for the purpose of recording music.

The result was a widespread "emigration" as the various music departments began to record their film scores at outside halls. First they used the London theatres (Scala, Cambridge and Savoy); some of the film companies began to use the H.M.V. gramophone record studios at Abbey Road. A Crown Film Unit recordist discovered the fine acoustics of some of London's town halls.

In 1946 it was decided that, with the increased studio output of the Rank group, a bottleneck was being created by a method of music recording, which involved sending out full mobile sound-recording trucks to cover every one of these "outside" jobs. It was therefore decided to convert one of Denham's smaller dialogue stages into a "scoring stage."

Fittings for Echoes

Cyril Crowhurst, chief sound engineer of D. and P., explained: "It was agreed," he says, "that the best course of action would be to build a modern scoring stage; equally it was realised that this would be an impossibility at this time, in view of the nation's building programme. After detailed discussion it was decided to convert Stage One at Denham for music recording until the more ambitious project could be realised."

The conversion occupied three months. The work consisted of constructing and equipping at one end of the stage a monitor room, a recording room and a projection room (which was erected above the recording room). A vocal booth has been provided at the far end of the building. The stage had been acoustically treated in the normal way for a production shooting stage—the walls and ceiling covered with "rock wool" making for a rather dead acoustical effect within and also improving the sound insulation of the stage.

A building of such dimensions without this sound absorbent would echo like a cathedral. For music recording purposes, however, a degree of reverberation or liveness is desirable. Removal of the "rock wool" would have meant some deterioration in sound insulation and the loss of a desirable acoustical condition when using the stage for other purposes. So a number of large wooden "flats" were made and distributed around the stage. These stand on the floor, supported by chains from an overhead gantry, and are thus capable of being moved around in order to obtain a desired effect on the sound of the music. In addition, similar "flats" are slung from the roof.

The main buildings at one end of the hall are fronted by a set of "polycylindricals" or curved columns with hard surface, designed to assist liveness without introducing flutter echoes.

Procedure on Stage

The supervising music recordist for Denham, Desmond Dew, describes the operation of the stage

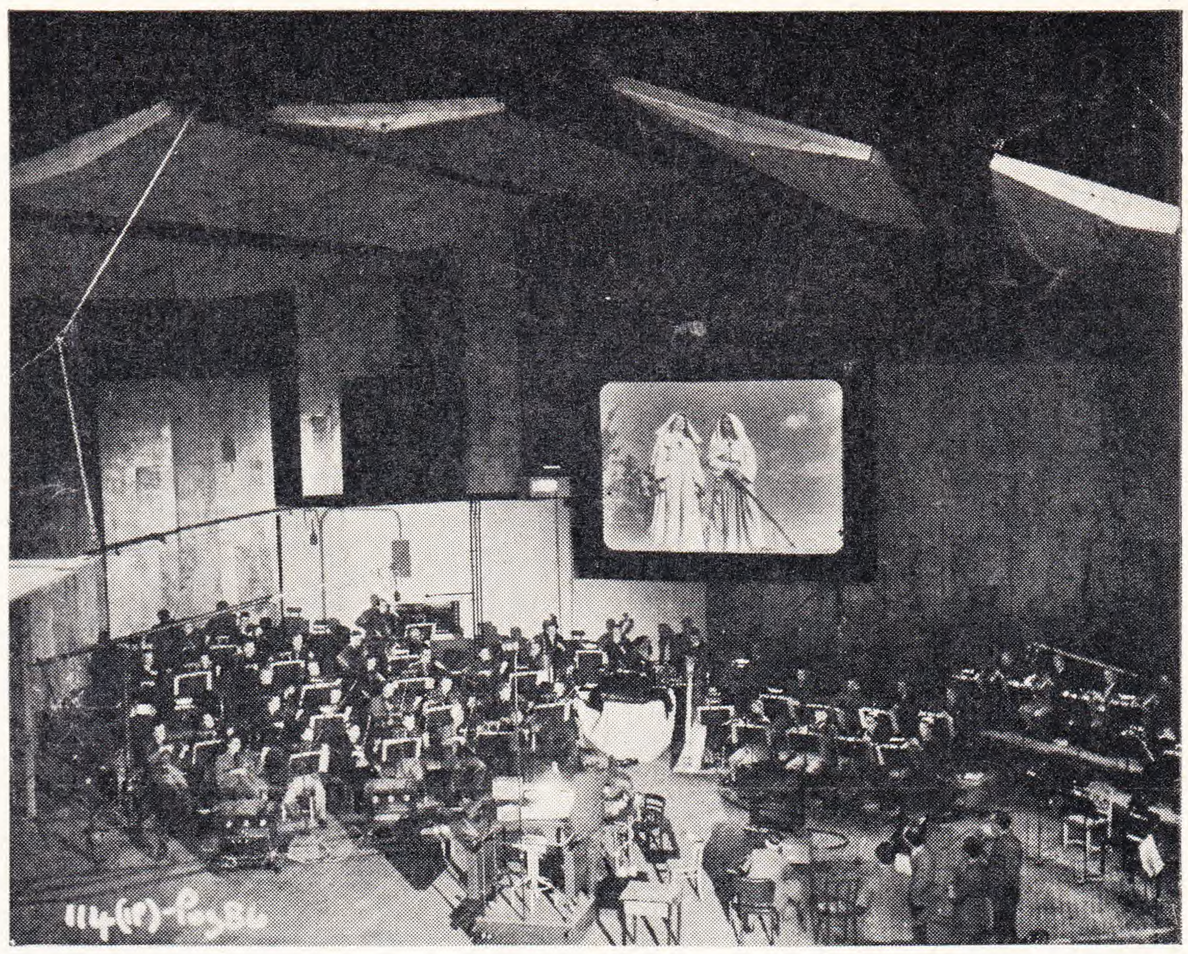
Here is his picture of procedure on the stage. The orchestra has settled in their seats, the conductor has asked them to be ready to play a piece of music marked, shall we say, "2M3" (that is, the third section of music in reel 2 of the picture). While the conductor is playing through this item, the sound assistant, who is sitting at a small control table by the side of the conductor's rostrum, has asked, by means of a "talk-back," for the projectionists to stand by to screen the section of picture and dialogue track marked "2M3." As soon as the projection is ready an amber light appears on the control table.

This "talk-back" communication system allows speech between the music recordist, conductor, stage assistant, projectionists, film and disc recordists and the vocal booth.

Invaluable "Ticker"

The conductor, having rehearsed the number, now requires to know how it will fit the action and dialogue, so he asks for the picture to be projected on the screen facing him, while, simultaneously, the dialogue is made available to him through a pair of headphones. The sound assistant presses a switch which puts on a signal for the projector to "turn," and automatically the red light warning comes on and the ventilating fans are silenced.

The conductor now rehearses to the picture and dialogue, his timing being assisted by a minute and second indicator known as the "ticker," mounted next to the projected picture.



While all this has been going on the music recordist has obtained a suitable orchestral balance by microphone positioning and level adjustments of the individual sections of the orchestra. He has also been listening to the dialogue at the same time as the music to obtain the effect that will be required in the finished sound track. When the conductor, composer and music recordist are satisfied, a recording on film and disc is made. Immediately after the "take" the disc is "played back" with the picture and dialogue so that a complete check can be made. The playback is controlled at the table alongside the conductor.

Pre-scoring Methods

Pre-scoring requires different treatment. If the script called for a restaurant scene with cabaret singer and dance band accompaniment the number would be recorded on two separate channels simultaneously; the dance band on one and the singer on the other. The singer would be in the vocal booth, which is glass-fronted to give a view of the conductor. The dance band would be on the stage and the sound of the band would be heard at very low volume over a loudspeaker in the booth. Thus the singer is able to see the conductor and hear the accompaniment.

After a "take" the two discs are "played back" together to give the finished effect.

Separate channel recording is employed so that when the tracks are finally mixed together in the dubbing process, the sound mixer can give perspective by increasing the level of the voice in a close shot or reducing it in a long shot, the accompaniment being balanced accordingly.

E. A. Drake, music mixer, when recording "Take My Life," had an idea for obtaining an improved music track as a result of a somewhat unconventional orchestral layout.

To suit the exacting requirements of the film music the orchestra is generally split up into three sections—strings, wood-wind and brass, each with its own microphone, thus giving the music mixed more positive control over each section.

Above: A general view of the recording studio at Denham; the wooden "flats" can be plainly seen close to the roof. Below: Kenneth Rawkins operating a disc recording machine in his control room

It is obvious that the ideal condition to give a perfect mixed resultant sound track would be for the string section mike to pick up *exclusively* the sound from that group of instruments; and similarly with the other sections. In practice, however, this is virtually impossible and the string sound usually suffers from unwanted pickup of the comparatively strong brass section.

The orchestral layout used on "Take My Life" was devised to reduce this unwanted pickup to a minimum, and entailed placing the woodwind and brass sections either side, but several yards *in front* of the string section.

The experiment justified itself by giving a cleaner and more bril-

(*Continued on page* xxvii)

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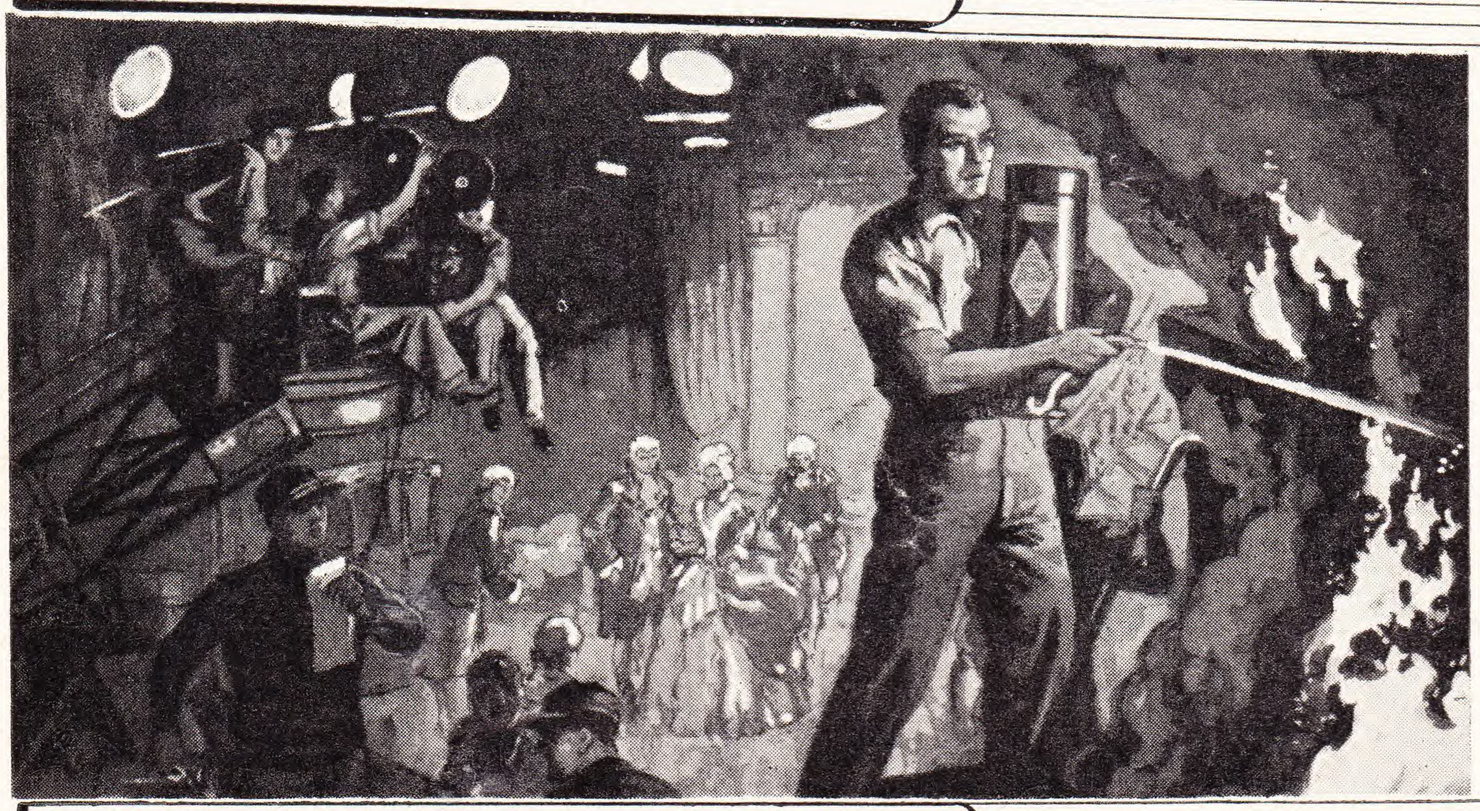

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DUBBING: A DETAILED SURVEY

How the Final Sound Track is Prepared

THE little-known but important processes by which the final sound track is prepared from the original recordings formed the subject of a joint meeting between the B.K.S. and the A.C.T. The speakers were C. Tomrley, who spoke on the selection and preparation of the tracks for dubbing; Bretton Bird, composer of the music in many British films, and W. Salter, M.B.K.S., who described the actual process of dubbing.

Tomrley started his description at the point where the final cut of the picture has been approved, and the production is ready for dubbing—often the first time the dubbing editor has seen the picture. The use of music and effects is discussed.

Probably the dubbing editor will receive the reels out of sequence, just as they are completed; "picture missing" inserts may be cut in to indicate inserts, montage sequences or library shots not yet selected; the track will be in a similar condition, with background recordings cut into by backgroundless dialogue tracks, or just unmodulated track to cover inserts.

One of the first tasks after viewing the production is to order from the library the most obviously needed effects tracks: cars pulling up, doors closing, revolver shots. Each reel of the cutting copy is run on the Moviola and marked to indicate where effects are to be added or removed.

At the same time, dubbing sheets are prepared to show dialogue or action cues and the distribution of the effects tracks. Assuming six dubbing heads are available, six columns on the chart would be headed "Dialogue," "Music" and "Effects A, B, C, D." Dialogue refers usually to the original studio recorded track; post-synchronised tracks are put on one of the other tracks for better control. It may be necessary to make volume or filter adjustments to any one of these tracks; and such sounds should be separated by blank spacing. A list of new recordings required must be prepared

"Faking" Sounds

A wall progress chart is essential, giving such data as what reels have been received and when, dates when sent in for neg. cutting, and when prints have been received.

Meanwhile, the music department will be demanding sections for timing; it is sometimes necessary to dupe whole reels in order to make the cutting copy available for neg. cutting. There are library tracks to be run, theatre bookings to be made, the casting department to be instructed to call artistes for post-synchronising. The speaker described the physical operation of the latter process.

The manufacture of special sounds may tax one's ingenuity. In "King Solomon's Mines" the sound of boiling lava was produced by placing a mike close to a large bowl of boiling porridge. The noise of a Chinese crowd was produced by running an English track backwards, and speeded up.

Bretton Bird commenced his talk by a brief discussion of the value of background music, which he differentiated from factual music—music which is performed in, or is part of, the story.

Musical Distinction

There are three methods of recording music: pre-recording and playback, direct floor recording, and guide-track and post-synchronisation. Playback allows the greatest latitude to everyone except the artiste. Direct recording, although the most spontaneous, seriously restricts the operation of almost every department. Guide-track methods offer the virtues and disadvantages of the other methods.

Generally, it is safe to assume that all music and songs in which a strict tempo is maintained are suitable for playback work. The sense of reality produced by direct recording becomes more evident as the music becomes more involved. The objections are the difficulty of maintaining satisfactory microphone and acoustic conditions throughout a shot, the difficulty of co-ordination, and generally the limited mobility of the camera due to the congestion on the set. It is generally considered that direct recording of musical sequences should only be undertaken as a last resource.

Since post-synchronisation of accompaniments and music is carried out with the aid of guide tracks or playbacks, the same limitations obtain as with floor playback work. One qualification is that the conductor has to convey to the orchestra that which the artiste is able to do spontaneously. In vocal song sequences the voice can be recorded with a lost ghost accompaniment, and the proper accompaniment post-synchronised.

Securing Timing

Bird explained how correct timing of music is secured. Plops are scratched upon a track representing the conductor's counts, which he hears through earphones. Lead-in plops should be built up at the ends of pauses. Pauses should always be an even number of bars. If after a pause the music is going to get faster, the plops should be gradually speeded up to correspond.

Cues for synchronisation points should be marked in consecutive numbers, after being marked on the Moviola; the numbers facilitate identification of the music tracks. The footage between cues may be measured and noted for convenience.

The speaker described a device he had developed, in which exactly five seconds' of music is written on each 10-in. stave; the music is registered by means of perforations, and a line of light is caused to traverse the stave in exactly five seconds. With the aid of this device it is possible to dispense with projection of the film and still assure synchronism. Another idea he had in mind was to cause the plops on the guide track to light up neon lamps visible to each member of the orchestra.

"Post-Sync." Hazards

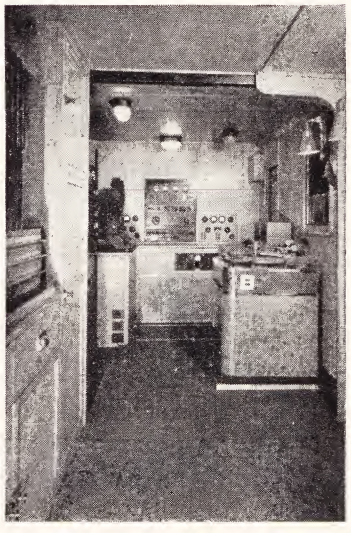
Finally, Bird discussed the actual recording session. Every possible positioning of the instruments has been tried; in order to facilitate the positioning of the instruments, he had composed a special piece of music, entitled "Balance," in the orchestration of which occurred every possible combination.

The third speaker, W. Salter, expressed the view that post-synchronisation should be used only as an emergency measure, because of the difficulty of assuring synchronisation. To carry out post-sync. necessitates nearly as much preparation as a shot on the floor. In post-syncing crowd noises, many shots are spoilt by the cry of "Cut" before the reaction dies naturally.

Even when all the missing tracks are provided, there remains the important task of modifying the characteristics of these tracks. This may necessitate re-recording under strange conditions; for instance, as telephone speech, echoes are simulated by means of the reverberation chamber.

The actual process of dubbing consists broadly of blending individual tracks, each reproduced upon a separate dubbing head, the outputs of the various heads being controlled by a mixer console; the combined sound output then passes to the sound camera. The console should be placed in the main theatre of the studio.

The picture above shows a dubbing session, with recordist Stephen Dalby at the controls. Below: The interior of a sound truck (Riverside). Its first-class equipment feeds the dubbing engineers with location material



The Imaginative Side

Each of the faders will, in all probability, have in its circuit an equaliser. Equalisation means the deliberate alteration of the recording characteristic, necessitated by several factors. One is the desirability of not having a large difference of bass content between different voices; a voice tending to shout loses a considerable amount of low-frequency content, and an intimate conversation contains an excess of low-frequencies. Errors on the floor due to perspective and microphone placing can within limits be corrected.

Simultaneously, with this work the imaginative side is progressing: cues for music to be faded in or out, crescendos or diminuendos worked out to a split second to get over certain words, the arrangement of effects and fill-ins; all of these have their changes in level and equalisation.

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Ansco-Color: Methods of Printing and Developing

The possibilities of Ansco-color, the early development of which closely followed Agfacolor techniques, are estimated in this practical and factual address by E. A. Williford to the B.K.S.

THE work of the Ansco-color research workers in adapting the original Agfacolor process to the practical needs of film production formed the subject of a B.K.S. meeting. The speaker was E. A. Williford, vice-president of the General Aniline and Film Corporation, who was in this country to explore the market. The paper was illustrated by 35-mm. and 16-mm. films, which showed a high standard of colour rendition.

Although the process is based upon the Agfacolor patents, the research and development necessary to bring the patents to fruition was carried on by Ansco independently after the separation from Agfa before the war.

The most important requirement for an original colour transparency suitable for 35-mm. motion pictures is that it shall lend itself to the printing of first and second generation duplicates, with a minimum loss in colour brilliance and fidelity.

The manufacturer is concerned with the following aspects: (1) Photography of the original scene; (2) process photography involving intermediate duplicates or masters; (3) printing of releases; (4) processing; and (5) sound reproduction.

Three Methods

The film designed for the photography of the original scene is a soft-gradation, reversible film, designated as Ansco-color type 735. The primary consideration leading to the selection of a reversible film instead of a negative was the advantage of finer grain, an important factor in the making of duplicates. It is preferred that this original film should be somewhat underexposed; the film has an exposure number of 8 Weston.

Three methods of producing dupes were available. The first was to make a straightforward optical print of the original on to type 132 duplicating film. This duping stock is a reversible film of soft gradation, but of lower speed, requiring approximately two to four times the light needed for black-and-white positive fine-grain stock. There will be some loss of brilliance by this method, not serious enough to preclude its use for lap dissolves, fades and other special effects; the method is, however, not recommended for full-length dupes.

The second method, and the one most likely to find general acceptance, is the use of a black-and-white mask in register with the original for colour correction when printing the intermediate duplicate. This method utilises the same duping film as the previous method, but it is developed for higher contrast. A special low-shrinkage, panchromatic, black-and-white film has been developed for masking. It is normally exposed through a yellow filter, but a great deal of control is available—for example, if a scene is predominantly green, a more desirable effect may be obtained by making the mask with a magenta filter.

The conformed master when printed will show little or no loss in colour brilliance; it will be balanced in regard to printing light and filter, and can be contact-printed by standard printers without necessity for light or filter changes.

Special Release Printer

The third method consists in making black-and-white separation negatives. The special stock has the unique property of giving equal gradation for exposures by blue, green and red light, and consecutive frames are exposed as red, green and blue separations, so that the problem of registration is minimised. A special skip-frame release printer will be required, or if separate separation positives are made, the release printing will be somewhat slow.

The release printing stock is known as type 732, a reversible, low-speed, fine-grain film, which can be developed to a high maximum density to obtain optimum colour brilliance. A wedge spectrogram of the sensitivity of this stock showed sharp peaks in the green and red regions, and a gap between these peaks.

The requirements of the printer are first, a light source operating at a colour temperature of 3,000 deg. K; a means for inserting printer filters into the light path quickly and conveniently; a condenser optical system; and an air blast. Considerable control of the colour balance of the release print is possible by the selection of printing filters, which are available in varying densities of yellow, magenta, and cyan.

Processing System

Processing of Ansco-color requires approximately 85 minutes, and all the films can be processed in the same solutions, with slight variations in the developing times. The processing involves the following stages: first developer, short stop, hardener, wash, second exposure, colour developer, short stop, hardener, wash, bleach, wash, fix, wash and dry.

To produce the sound track, the recommended method is to move the recording head so that the negative recording is obtained on the opposite side of the film. This negative is then printed on to black-and-white positive stock, which will then have the sound track in the proper position for printing directly on to type 732 printing film in the conventional manner.

Dye tracks have a relatively low absorption in the infra-red region, and with a conventional photo-cell a loss of volume of 6 db. is encountered. The use of a blue-sensitive photo-cell, such as the RCA 1P-37, is recommended. It is not proposed to adopt special processing to make the sound track suitable for reproduction by the red-sensitive cells.

Mr. Williford concluded his paper by remarking that the negative-positive method of processing had not been abandoned—the Ansco laboratories were, in fact, working on it—and he personally thought it might have advantages over the reversal method.

On the Screen

Following the paper, an admirable 16-mm. amateur-made film was projected, followed by several reels representing tests made in British studios. Where the original camera film was shown, the colours were extremely flat, with a bluish haze, but the prints showed an excellent colour range. Several shots showed a tendency to flatness and washed-out highlights, due to over-exposure.

F. G. Gunn, of Technicolor, opened the discussion by questioning the applicability of the proposed colour-separation method for release printing, particularly for overseas release; Mr. Williford expressed the view that the use of multilayer films throughout was perhaps preferable, since the use of separation negatives necessitated the use of special equipment, whereas a master film could be printed on a normal printer. Studio rushes could be in colour.

Costs in U.S.

Replying to F. Rodker, the lecturer stated that the cost in the U.S. by the camera film was 12 cents per foot, of the duping film 6 cents, and the printing film 5½ cents. Processing cost about 2 or 2½ cents. Mr. Williford agreed with Mr. Wratten that with the present stock, the cost of extra lighting would be considerable, but stocks would shortly be available having a Weston rating of 12 to 20. The speaker informed F. Bush that the two types of stock, for daylight and tungsten, had the same speed.

W. M. Harcourt referred to the risk of dermatitis due to the colour developer; Mr. Williford stated that new chemicals were being introduced which had proved entirely non-toxic.

Replying to F. Tull, the lecturer stated that control of colour of the prints was possible either in printing or in processing. He informed G. Gunn that the present shortage of colour stock was solely due to the shortage of coating alleys; colour film had to be passed through five times, therefore the output of a given plant was one-fifth that of black-and-white film.

THE STORY OF A "SCORING" STAGE

Continued from page xxiii

liant music sound track than had been obtained before. Four microphones were in use—strings, wood wind, brass and percussion, and one for occasional use behind the horn section when an important horn passage called for extra prominence.

The position of the mikes is determined by the music mixer who, listening to each section of the orchestra in turn, finds the critical spot for giving the best quality of sound and the best balance of instruments in the section.

Each microphone is connected to its associated amplifier on a rack in the monitor and control room, and the separate outputs from these amplifiers are fed into four variable resistances on the panel of the mixing desk.

The Last Stages

Thus, by manipulation of these controls, the sections of the orchestra are balanced in their correct proportions to give the desired sound.

Also associated with the mixing desk are a series of "equalisers," which can be brought into circuit when required and which allow varying degrees of treble and bass "lift" or "cut" to be introduced. The resultant output from the mixing desk is then amplified by a main amplifier and distributed to the film and disc recording machines and also to a high-fidelity loudspeaker in the monitor and control room on which the music mixer checks the sound while working.

In the film and disc recording room the final stage is reached. In charge of the equipment is Kenneth Rawkins.

A part of the output from the main amplifiers is fed to the equipment which records the music on acetate discs, rather similar to gramophone records but allowing immediate playback without all the stages of processing involved in commercial records. Similarly, a line from the output is fed to the equipment which records the music on film.

The motors driving the film recorders, the disc recording machines and the projector showing the picture on the stage to the conductor are all electrically locked together to maintain perfect synchronisation.

A glimpse into the monitor and control room, where Desmond Dew and Ted Drake are at work

Increasing the Power of Arcs

Some methods of obtaining greater brightness while preserving unvarying consistency of light output are outlined by C. G. Heys Hallett, who explains the basic requirements necessary in this interesting B.K.S. paper.

THE need in the studio for lamps of constantly increasing intensity and of unvarying consistency of light output was the subject of a paper given by C. G. Heys Hallett, of Morgan Crucibles, at a B.K.S. meeting. He demonstrated a new Mole-Richardson lamp, known as the M.R.250, which he claimed was the most powerful model available to the industry.

In the case of projection arcs, said Mr. Hallett, copper coating of carbons has been generally employed, but the copper has a limit of performance far below that of the carbon itself. It is possible to design carbons of the same size but having different current ratings.

The characteristic brightness curves of these carbons are tangent to the same master curve, which can therefore be used to predict the potentialities of any particular carbon yet to be designed. The curve shows a very wide field of development yet available, but the lecturer expressed the view that it represented the maximum efficiency likely to be attained.

The first major problem in climbing up the master curve is to develop a contact system which will enable uncoppered carbons to be handled without trouble at currents several times those normally employed.

Research has shown that if positive carbons are burnt with an extremely small protrusion, a considerable reduction of burning rate can be obtained without loss of light. The negative carbon, on the other hand, needs a much greater protrusion to develop the ideal point shape for the current in question. The current density of the negative is, of course, far higher than of the positive.

Varied Demands

The requirements of the contact system are that it shall be capable of working with short carbon protrusion; that it shall be capable of carrying a heavy current and distributing it uniformly round the carbon; that it shall be able to extract and dispose of large amounts of heat; reliable connections to main conductors; accurate location; low friction; and simplicity and ease of dismantling.

Mr. Hallett demonstrated a water-cooled contact system which he claimed met these requirements: a water flow of 2 or 3 pints per minute was able to extract 20 per cent. of the energy in the arc, and to keep negative and positive jaws cold while working.

The single motor feed used for projection lamps is quite unsuitable for these high currents, and for the stability needed in the studio. The requirements of a control system are that the positive crater shall be maintained at the focal point of the optical system, while the negative must be maintained to keep the arc voltage constant.

Bridge Circuit Control

In the new arc lamp, the positive feed is controlled by means of a thermostat, which it is claimed ensures the crater being maintained to within 0.1 mm. of the focal point. The negative is fed by a separate motor, which is controlled by a bridge circuit in which the arc and the ballast resistance form two legs; this provides an extremely steady control, and furthermore enables the motor to run in either direction according as to whether the arc voltage is high or low. This feature provides automatic striking.

Performance Facts

Demonstrating the new lamp (to run which a Mole-Richardson generator had been specially installed), Mr. Hallett stated that it was a condenser arc, designed to work over a very wide range of currents, and to handle newly developed carbons. Rotation of the positive carbon, which is effected by the usual feed wheels and scroll plate, can be varied independently of the feed rate; separate controls are provided to suit the burning rates of the three types of carbons.

The performance of the arc was illustrated by special charts. They showed the behaviour during automatic striking, and indicated that shooting could safely commence within 20 seconds of striking. When all three carbons (150, 250 and 315 amps. respectively) were burned in succession, the time taken to change the positive and restrike was 22 seconds. Even when the positive was inserted 2 mm. short of the correct position, the automatic control had corrected the position of the crater within 28 seconds of the arc being struck.

A Practical Curve

Mr. Hallett stated that the lamp was of British design, and that the light output at 315 amps. was considerably more than double that at 150 amps.

Replying to questions from A. Duerdoth and W. Bland regarding the "master curve," the lecturer stated that it was an essentially practical curve, and in his view represented the maximum efficiency likely to be obtained.

New Process Film

A new type of outsize Eastman film makes possible the use of photographed moving cloud backgrounds without the use of costly rear projection. The first use of this process was instituted by Lee Zavits, special effects director for "Intrigue," Star production, which United Artists will release.

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Two Colours are Better than None—as Conditions are

With the supply of three-colour film still extremely restricted and likely to be for some time, R. Howard Cricks in this article examines the possibilities of adopting a two-colour process as a temporary expedient, and assesses the quality of possible systems now available.

IN the past few months a number of colour films by different processes have been released: Technicolor, Agfacolor, Cinecolor, Magnacolor. I have been at some pains to discover the reaction of patrons to these systems. The views expressed, and the consequent inferences are rather interesting.

The most universal observation I have discovered is "Why was such-and-such a picture not in colour?" The non-availability of colour processes for such films means nothing to the layman. The public wants colour.

It is inevitable that any colour film is described as Technicolor, just as any cartoon is a Mickey Mouse. This is not just a habit; few people, I have found, can distinguish between the various processes—and what is more important from our point of view, few people actually distinguish between two-colour and three-colour systems.

Three-Colour Superiority

Here let me emphasise that in my view this is purely a temporary phenomenon. As soon as the public gets accustomed to seeing the majority of films in colour it will learn to distinguish between the wide range of pleasing colours obtainable with three colours, as opposed to the lack of primary colours of the two-colour process.

But for the time being, while the footage of colour films is inevitably restricted, these points have a moral: two colours are better than none at all.

We have recently read that the American Cinecolor proposes building a factory in this country. With the present conditions in the building industry and in the supply of equipment, this is obviously a plan for the remote future. In the meantime, two-colour prints have to be imported from America. Still more important, our own producers are to all intents and purposes restricted to Technicolor or black-and-white; Technicolor cameras are worth their weight in gold, while Technicolor processing is booked up for years ahead.

The Case for Two-Colour

Agfacolor and Anscocolor will no doubt be commercialised in this country before many years are past. But this again is for the future. British Tricolour, a most promising system, is held up for lack of premises and equipment.

Why should not two-colour processes be re-introduced in this country?

My use of the term "*re*introduced" may surprise some people who may have forgotten that before the war the Agfa bi-pack was used by several producers of shorts and advertising films. They may be unaware of the fact that British Ondiacolor installed a processing laboratory in Wardour Street (the equipment for which I designed) and showed some reasonably pleasing shorts.

To-day three labs. are in the hands of Radiant Colour. We have heard little of their plans. But bi-pack stock is still obtainable; negative processing calls for no special plant, and the difficulties of positive processing are surely not insuperable. Any lab. could without much difficulty be equipped at a cost no greater than, say, that of a large set in the studio.

Processing Variations

No one will claim that a two-colour process is capable of accuracy. Even the obtaining of reasonably pleasing results is not achieved without some difficulty. Obviously, the American processes adopt the principle, which was so important in the case of British Ondiacolor, of processing different scenes to suit the predominant colours.

An important factor with such processes is that flesh tones can be reasonably well reproduced, given correct exposure. On the other hand, the greens of Nature are usually far from good, and would need special attention.

Question of Sharpness

There is one factor which the public I am sure demands: perfect definition. It is fashionable to say that a double-coated positive is not capable of producing a sharp picture. Mathematics disproves this idea. The thickness of the film base is .005 in.; assuming a 5-in. lens, this means a difference in image plane of 1/1,000th the focal length. At a throw of 100 ft., this means a difference in focus of only just over an inch; quite normal angles of rake produce a difference of two or three feet, which passes unnoticed.

No, it is in the negative that definition is most easily lost—partly through dispersion of the light rays in passing through the first emulsion to reach the rear film, but chiefly through lack of contact between the two films.

To summarise: two-colour processes to be successful need mechanical, chemical and artistic skill, but on a scale far below that demanded by three-colour processes. A two-colour system could be operated just as soon as a laboratory could be equipped.

In the meantime, it would meet a vital need in overcoming the bottleneck which necessitates so many British pictures which cry out for colour being made in Monochrome. It would give our technicians and production staffs valuable experience in handling colour. Finally, it would satisfy the demands of a large proportion of the public.

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At Denham

"HAMLET"
(Two Cities)

Producer and director, Laurence Olivier. Production supervisor, Phil C. Samuel; associate producer, Anthony Bushell; production executive, Herbert Smith; production manager, John W. Gossage; assistant production manager, Peter Berg; progress liaison, Sid Bremson; casting director, Weston Drury; crowd casting, W. H. Fleming; facilities, Jack Martin; associate director, Reginald Beck; first assistant director, Peter Bolton; second assistant director, Cecil Ford; third assistant director, Alec Gibb; continuity, Elizabeth Everson; assistant continuity, Gladys Goldsmith; lighting expert, Desmond Dickinson; camera operator, Ray Sturgess; first assistant cameraman, Gerry Surman; second assistant cameraman, Steven Minchin; stills cameraman, Wilfred Newton; sound supervisor, G. C. Stevens; mixer, John W. Mitchell; recordist, Graham Martin; boom operator, Dudley Messenger; designer, Roger Furse; art director, Carmen Dillon; assistant art director, Betty Pierce; con. supervisor, Jim Tillyer; chief draughtsman, Bill Bowden; set dresser, Roger Ramsdell. Special effects: Representative, Jim Snow; editor, Helga Cranston; assistant editors, Peter Taylor and Gerald Thomas; sound effects, Harry Miller. Wardrobe: Designer, Roger Furse; assistant designer, Elizabeth Hennings; wardrobe supervisor, Fred Pridmore; wardrobe mistress, Mrs. Gillett; make-up supervisor, Geoffrey Rodway; make-up, E. Westo, M. Morris and B. Newall; chief hairdresser, Vivienne Walker; hairdressers, Joyce Wood, Pearl Bremner and Frances Watson. Music department: Composer, Dr. William Walton; director, Muir Mathieson; assistant to director, John Hollingsworth; chief floor electrician, Jim Hamilton; chargehand carpenter, Jack Bolam; foreman stagehand, Trevor Rees; standby carpenter, J. West; standby stagehand, T. Cox; chargehand dresser, C. Stevens; chief floor props, Jim Burgess; chargehand painter, Frederic Powell; standby painter, F. Jerrold; standby rigger, L. Duffy.

"ONE NIGHT WITH YOU"
(Two Cities)

Producer, Josef Somlo; director, Terence Young; production manager, T. Legeard; first assistant director, Michael Anderson; third assistant director, P. Marsden; continuity, A. Besserman; stills, E. Pizey; wardrobe, Peggy Henderson and B. Haines; make-up, E. Westo; hairdresser, V. Franklin; set dresser, F. Pearson; sound mixer, R. Smith; boom operator, T. Hebbern; camera operator, N. Warwick.

"SO EVIL MY LOVE"
(Paramount British)

Producer, Hal Wallis; production manager, Frank Bevis; director, Lewis Allen; first assistant, Mark Evans; second assistant, Roger Marley; continuity, Joan Barry; camera lighting, Max Greene; camera operator, Cecil Cooney; focus operator, Sid Davis; sound recordist, E. F. Goodes; boom operator, D. B. Hildyard; art director, Tom Monahan; assistant, Kenneth MacCullum Tait; gown designer, Sophie Harris; publicity, Robert Graham; stills, Frank Bellingham; wardrobe master, Mr. Thackeray; wardrobe mistress, Winifred Jackson; make-up artist, Geoffrey Rodway; assistant, A. L. Lawrence; hair stylist, Vivienne Walker.

"THE MARK OF CAIN" (Two Cities).—A full production unit list appeared in the KINE. of April 24.

At Ealing

"SCOTT OF THE ANTARCTIC"
(Ealing)

The unit travelling to Switzerland is: Director, Charles Frend; associate producer, Sidney Cole; unit manager, Ray Anzarut; first assistant director, Rowland Douglas; third assistant director, Cyril Pope; continuity, Patricia Arnold; accounts, Lilian Laidlaw; lighting cameraman, Osmond Borrodaile; camera operator, Robert Moss; focus, Bernard Waterson; clappers, H. Smith; stills, R. Woodard; men's wardrobe, F. T. Birch; make-up, H. Davo; stagehand, S. Green; carpenter, D. Drift; stagehand, J. E. Williams; electrician, S. Willet; electrician, E. Wadley; electrician, A. Privett; prop. man, Harry Newman; technical adviser, David James; Antarctic adviser, Lt.-Cdr. Q. Riley, R.N.V.R.

"AGAINST THE WIND" (Ealing).—A full production unit list appeared in the KINE. of April 24

"IT ALWAYS RAINS ON SUNDAY" (Ealing).—A full production unit list appeared in the KINE. of March 6.

At Elstree

"MY BROTHER JONATHAN"
(A.B.P.C)
At British National Studios

Executive producer, Warwick Ward; director, Harold French; production manager, W. A. Whittaker; unit manager, Robert Asher; first assistant director, Jack Martin; second assistants, Bill Shore, G. Agosti; third assistant, Dave Tomblin; continuity, Joan Wyatt; assistant, Connie Clark; art director, Douglas Daneils; assistant, Bill Latter; scenic artists, Olga Lehmann, Gilbert Wood; director of photography, Derick Williams; operator, Drummond Drury; focus, Jim Warner; loader, Johnny Bond; Ken Nicholson, clappers; director of music, Hans May; Wilfred Bruns, assistant; recording director, Harold King; sound recordist, Cecil Thornton; sound cameraman, Michael Basset; boom, John Moyes; assistant, Derek Swinnerton; second unit camera operator, Gerald Moss; stills, Frank Buckinham; floor photographer, Charles Reed; publicity stills, John Taylor; period adviser and designer, J. Gower Parks; wardrobe supervisor, Mrs. Tweedy; i/c make-up, Henry Hayward; assistants, Dave Aylot, Sen., and Jun.; hairdressing, A. G. Scott; assistant, Miss Williams; buyer, Dudley May; A. Wisby, assistant; floor manager, Arthur Moss; master carpenter, Arthur Searle; master painter, Reg. Wildman; master plasterer, B. Moodnick; chief electrician, Tom Sullivan; editor, Charles Hasse; first assistant, Peter Pitt; second assistant, Bob Rixem.

"WHILE I LIVE"
(Edward Dryhurst)
At the M-G-M Studios

Executive producer, Edward Dryhurst; director, John Harlow; associate producer and in charge of casting, Eric L'Epine Smith; assistant to producers, Roger Good; director of music, Charles Williams; art director, Bernard Robinson; assistant, T. R. Seddon; dress designer, Robert Freemantle; secretary, Janet Buchan; accountant, Norman Mould; production manager, Dora Wright; assistant, Harry Hassell; lighting cameraman, Fred Young; camera operator, Skeets Kelly; assistant, Chris Doll; loader, Chris Holden; numbers, Stan Evans; recordist, A. S. S. Fisher; sound cameraman, Michael Hickey; boom operator, John Clennell; assistant, R. N. Jones; maintenance, N. T. Stevenson; first assistant director, Roy Parkinson; second, Jack Lambert; third, D. Bertera; fourth, John Hancock; production secretary, Sheila Shaw Jones; continuity, Angela Martelli; make-up, Guy Pearce; assistants, Colin Garde and Neville Smallwood; hairdressing, Pat Pearce and Joan Smallwood; assembler, Ray Poulton; dubbing editor, R. Carrick; assistant A. Scapeing; buyer, Bill Isaacs; stills, Dave Boulton; assistant, Joe Pearce; chief floor electrician, Cyril Cambridge; stand-by carpenter, Cyril Bond; stand-by stagehand, Harry Richards; stand-by painter, W. Woodstock; chief of floor props, S. Pleace; grips, Bill Foster.

At Islington

"MIRANDA"
(Gainsborough)

Producer, Betty E. Box; director, Michael Chorlton; director of photography, Bryan Langley; production manager, Fred Gunn; dialogue director, Peter Cotes; art director, George Patterson; editor, Gordon Hales; publicity, Betty Calaghan; wardrobe supervisor, Yvonne Caffin; wardrobe mistress, Mrs. Wootton; first assistant director, Alf Keating; second assistant director, H. Griver; third assistant director, A. Batt; continuity, Jo Harcourt; second continuity, June Randall; camera operator, Dudley Lovell; focus, E. Yospa; clappers, A. Gatward; loading, L. Newson; recordist, M. Hobbs; sound camera, M. Jay; sound maintenance, F. Sloggett; boom operator, D. Mason; boom assistant, W. Holland; hairdresser, Ivy Emmerton; make-up, Len Garde; second make-up, Gene Beck; property master, T. Fletcher; floor props, S. Overall, A. George; chief electrician, S. Sargent; floor electrician, H. L. McKay; stills, C. Haine; floor stills, A. Cann.

At Pinewood

"OLIVER TWIST"
(Cineguild)

Producer, Ronald Neame; director, David Lean; production manager, Norman Spencer; assistant director, George Pollock; second assistant director, Chick Simpson; production manager's assistant, Bob MacNaught; production secretary, Iris Dalton; continuity girl, Maggie Sibley; lighting cameraman, Guy Green; camera operator, Oswold Morris; clappers/loader, Peter Hall; clappers, Paddy Ahearne; production designer, John Bryan; assistant art directors, Geoff Woodward and E. Hopewell-Ash; set dresser, Claude Mauncey; property buyer, Frank Hobbs; construction foreman, Harold Comben; editor, Jack Harris; sound mixer, Stan. Lambourne; boom operator, George Paternoster; costume designer, Maggie Furse; ladies' wardrobe, Dorothy Edwards; gent's wardrobe, Bob Raynor; hairdresser, Biddy Crystal; make-up, George Blackler and Stuart Freeborn; still cameraman, Charles Trigg.

"THE RED SHOES"
(The Archers)

On location in France. Assistant producer, George R. Busby; production assistant, Gwladys Jenks; production secretary, Marjorie Mein; liaison editor, John Seabourne, Jun.; cashier, E. Thompson; assistant director, Sydney Streeter; second assistant director, Kenneth Rick; continuity, Doreen North; assistant continuity, Joanne G. Busby; camera lighting, Jack Cardiff; camera operator, C. G. Challis; Technicolor technician, George Minassian; Technicolor camera assistant, Robert Kindred; chief electrician, Bill Wall; chief unit make-up, Ernie Gasser; make-up, Eric Carter; colour and B/W stills, George Cannons; assistant to stills man, Alistaire Phillips; ballet, décor and art direction, Hein Heckroth; associate art director, Arthur Lawson.

"THE WOMAN IN THE HALL" (Wessex).—A full production unit list appeared in the KINE. of March 6.

At Riverside

"DAUGHTER OF DARKNESS"
(Alliance), formerly titled "They Walk Alone".—A full production unit list appeared in the KINE. of April 24.

At Shepherds Bush

"SNOWBOUND"
(Gainsborough)

Producer, Sidney Box; production manager, Anthony Keys; director, David MacDonald; first assistant, Don Weeks; second assistant, Albert Pearl; continuity, Phyllis Ross; camera lighting, Stephen Dade; camera operator, Gordon Lang; focus opertor, J. Bawden; sound supervisor, Brian Sewell; sound recordist, Sid Wiles; boom operator, C. Swern; art director, George Provis; assistant, Maurice Carter; editor, Charles Knott; assistant, J. Needs; gown designer; Julie Harris; casting, Weston Drury, Jun.; crowd casting, C. Hurst-Brown and Ginger Baker; publicity, Tom Durdon; stills, B. Chapman; wardrobe master, W. Neale; wardrobe mistress, Dolly Smith; make-up artist, W. Partleton; hair stylist, Eileen Alder; research, Eileen Griffiths.

"RESCUE" (Gainsborough).—A full production unit list appeared in the KINE. of April 24.

At Shepperton

"ANNA KARENINA"
(London Films)

Producer, Sir Alexander Korda; director, Julian Duvivier; associate producer, Herbert Mason; dialogue, Elizabeth Montagu; costume designs, Cecil Beaton; assistant costume designs, Persis Allen; production manager, Mickey Delamar; first assistant director, Tom Connochie; second assistant director, John Bremer; third assistant director, Edwin Cotton; assistant to production manager, John Alexander; continuity, Maisie Kelly; assistant continuity, Maureen Lanigan; production secretary, Maureen Duffy; Russian technical adviser, V. Wiazemski; lighting cameraman, H. Alekan; camera operator, Bob Walker; camera assistant, Irvin Panaman; clappers, John Kruse; sound mixer, Bert Ross; boom operator, Ken Ritchie; assistant boom, Kevin McGlory; recordist, D. Tate; unit sound maintenance, D. Racine - Jacques; editor, Russell Lloyd; assembly cutter, John Ferris; assistant cutter Tom Simpson; wardrobe supervisor, Bob Henderson; assistant wardrobe supervisor, Ivy Baker; wardrobe master, Arthur Newman; first assistant wardrobe, Paddy Harte; assistant wardrobe, Renee Coke; make-up, Harold Fletcher; assistant make-up, H. Terrington; assistant make-up, Douglas Forsyth; floor make-up, B. Fordyce; hairdresser, Helen Penfold; assistant hairdresser, Barbara Hodges; assistant hairdresser, Walleen Whitworth; stills, Ted Reed; floor stills, Ray Hearne; art director, A. Andrejev; associate art director, W. Shingleton; draughtsman, Harry Pottle; draughtsman, Ted Clements; draughtsman, Tim Bryan; production buyer, E. Rodrigo; set dresser, Len Townsend; publicity, Enid Jones; property man, G. Pickett; property man, H. Farley; property man, H. Bark; property man, R. Gathern; props charge hand, Bill Rolfe; floor props, F. Davies; floor props, C. Bark; floor props, E. Chandler; chief floor electrician, Don Ring; stand-by carpenter, Sid Wilcox; stand-by painter, Sid Couldrige; stand-by plasterer, Jack Roberts; camera grips, Joe Vincent.

"AN IDEAL HUSBAND" (London Films).—A full production unit list appeared in the KINE. of April 24.

At Southall

"THINGS HAPPEN AT NIGHT" (Alliance).—A full production unit list appeared in the KINE. of April 24.

At Twickenham

"NO ORCHIDS FOR MISS BLANDISH" (Alliance)

Executive producer, James A. Carter; producer, St. John L. Clowes; associate producer, Oswald Mitchell; director, St. John L. Clowes; production manager, Laurie Lawrence; production secretary, Marion Walker; first assistant director, Bert Dorset; second assistant director, Eric Pavitt; third assistant director, M. T. Whiting; director of photography, Gerald Gibbs; camera operator, Bernie Lewis; focus, Peter Lambert; clapper, Stan Bolton; art supervisor, Andrew Mazzei; art director, Harry Moore; recording supervisor, George Burgess; sound recordist, John Mitchell; hairdresser, Jane Seymour; make-up artist, Lester Garde; still photographer, Dick Cantouris; assistant still photographer, Puck Bishop; casting director, Nora Roberts; wardrobe supervisor, Dorothy Sinclair; wardrobe mistress, Ellen Trustler; wardrobe assistant, E. Adamson; editor, Mike Del Campo; assistant, Connie Mason; continuity, Shirley Barnes; assistant continuity, Ann Stanborough; studio publicity, Evelyn Barrie.

At Walton-on-Thames

"THE FIRST GENTLEMAN" (Columbia British).—The full production unit list for this film will be published as soon as it is available.

At Welwyn

"BRIGHTON ROCK" (Charter Films).—A full production unit list appeared in the KINE. of February 13.

ON OTHER PAGES

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The A.C.T. View ..... p. vii
Louis Jackson on Production p. ix
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The Small Studio, by Henry Halsted ..... p. xxiii
The Studio Engineer, by Charles Hillier ..... p. xxv
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Official Action

This studio supplement contains a survey that reveals that the production industry has not made during this year the progress that everyone hoped for. It also contains suggestions, both from "Kine." specialists and experts in the trade, as to how the situation may be bettered. The important thing is that the position be fully realised, and then that speedy, constructive action be taken.

We feel that this production industry is capable of putting its own house in order once it has realised the full implications of the position.

But even when that is done—and done assuredly it will be—our studios still cannot meet in full the great demands which will be placed upon them in the next twelve months and maybe for long afterwards. It is here that we need Government aid, aid which will enable us to expand our resources, with new, if purely temporary, studios, more equipment and materials, more skilled labour.

Just now the Government attitude is not encouraging, in spite of the official words about the "cultural" value of the British film overseas. But our representative bodies should not relax their efforts in pressing for more assistance.

We cannot as an industry claim the priority ranking of such vital services as steel and coal. We would not presume to do so. But our product can be the most powerful sales force for this country's ideals and goods. America has long since realised fully the power of the film from this point of view, and for that reason has fostered its film business.

It is up to our trade associations to bring that point home to the Government, to bring home to the officials who can give us practical assistance the fact that we not only provide entertainment for the relaxation of our own people, but that we can perform incalculable national service with our product in all the countries in the world.

OVER-ALL SURVEY

TIME TO CO-OPERATE

In the last issue of this Studio Section the opening survey stressed the fact that the future prosperity of the production industry was bound up inseparably with shooting time on the floor. The fact is now, three months later, more than ever evident. The survey on pages iv and v of this issue reveals that floor space is not being used to the fullest advantage, and it also shows that there are no clear-cut plans to ensure that it will be more economically and efficiently employed in the immediate future. The following terse article by "Kine." studio correspondent Leonard Wallace, emphasises the vital need for this planning, not only in individual studios but also by all representative bodies and preferably in close collaboration with each other.

IT is not too dramatic to say that to-day the fate of British production hangs in the balance. I do not mean that it is threatened with extinction, but there is a dire prospect of a gradual sliding into muddle, if all those who have power to make and implement decisions do not face the issues squarely and, having realised clearly what they are up against, take positive action.

These, briefly, are the issues. If the Americans continue to withhold their product—and there is no reason at all to suppose that they will do otherwise—the kinemas of the country will be starved for films. The challenge to the producers is the impossible task of preventing that starvation. Everyone is agreed that it is impossible, but much can be done to alleviate the condition—if there is careful planning in the studios and between the studios, if there is complete and generous co-operation between the producers and the workers of all grades, if there is determination by everyone connected with film making to work to the fullest capacity of which they are capable.

British film makers, therefore, are presented with a magnificent opportunity—but it is an opportunity alarmingly hedged around with harsh conditions. Shortage of space is the ever-present problem, but shortage of materials and manpower are still headaches. Government aid seems unlikely—at least in any degree which can make an appreciable difference in the next few, the vital, months.

So the Industry is thrown back on its own resources. Those resources are a few well-equipped major studios, a number of more or less efficient minor studios, and a large array of first-class brains in all departments of production. These are not negligible resources. If they are fully marshalled and mobilised they can do much more than they have done in the past. Every section of the business will agree with that. Dissension comes when the methods of marshalling are discussed.

To my mind, as a close and impartial observer, this production industry can only make the most of its potentialities if there is complete co-operation between labour and management. I regard some sort of standing joint committee composed of B.F.P.A. and A.C.T. members as absolutely essential to the rationalisation of this Industry. A move has already been made in the right direction. Now we want to see the establishment of a brains trust blending the best minds of the executive with the best of the technicians.

Watch Centralisation

Constructive as such a committee would be, it could not function successfully unless all the individual studios and all the workers' associations also rationalise their own affairs. In the Rank Organisation, for instance, there are signs that super-centralisation is bringing with it the disadvantages of unwieldy system, red tape and delay. The routing of stills, for example, means that it is practically impossible for any individual publicity man to have a still taken for a newspaper and delivered the next day.

Those in high places in the Rank group would do well to review their various systems and see if there cannot be some simplification.

It cannot be easy for any producer these days to adhere to programmes planned six months ago when conditions promised to be so very different. I admire the courage of Sydney Box who has boldly scrapped scheduled productions and substituted new ones. It remains to be seen whether this decisive action will be rewarded by a big output for the year, but it does show that Box has a flexibility of mind and an ability to reorganise rapidly. These qualities are valuable indeed these days.

If Box can combine this flexibility with the power to maintain strict production schedules, he may have found one answer at least to present problems. Louis Jackson has another equally useful answer. In his case it is pre-planning of a given programme and rigid adherence to that programme almost to the exact day.

Methods of Planning

Whichever way the planning goes—for flexibility or for rigidity, planning there must be—and not simply planning of the over-all programme. Every picture must be treated with the same exhaustive planning while it is in the paper stage. It is at this stage that the advice of the technicians will be of most practical value. If they are consulted and listened to at the stage of the preparation of the final shooting script, the result should be a script that is a real blueprint for speedy, economical and uninterrupted production.

I know that there are some producers who feel that the technicians, under their new agreement, will not be able to maintain the pace of production required by present circumstances. I can appreciate their point of view, just as I respect the sincerity of the A.C.T. leaders, who assure us that their men will do the job. I am sure, in any case, that they can only do the job if production methods are drastically rationalised—and that can only come about through free interchange of ideas between producers and technicians.

All this brings us back to the main text, the old maxim of "unite and conquer." But in uniting let us take care to preserve individuality. That is essential, for this business of making pictures is very close to being an art as well as an industrial undertaking. If we allow committee consultation to become committee rule, we shall be no better off.

BB

"KINE." SURVEY REVEALS PRODUCTION CRISIS

This article and its accompanying tabulation, the result of exhaustive research work by "Kine.'s" P. G. Baker, reveals that the Import Duty and other causes have seriously upset production plans announced at the beginning of the year and have brought about many sudden changes of schedule, the shelving of some subjects and the last-minute introduction of others. The result is a state of flux in the production industry, and a strong indication that this year's output will be very little in excess of 1946. This fact, coupled with uncertainty about the future, means we have reached a crisis.

BRITISH production is facing a crisis. It has been brought about directly by three things: The Dalton duty, the five-day week and more pay agreement with the unions, and the shortages of space and materials which cramp any worthwhile expansion of output. And to a lesser degree, British producers have to face the fact that high budget pictures made several months ago are not going to make the expected profits from the overseas markets.

Since the KINE.'s brief Crisis Week survey early in August a more detailed analysis has been made of the whole production field. The result, briefly, is this:—

Not many more top-quality features will be turned out by our studios this year than during 1946. The latest estimate, excluding second-feature and quota material, is for fifty-three subjects.

The Union Viewpoint

Production schedules have been successfully tightened up by a few producers: but key studio space is still housing pictures on fifteen, nineteen, twenty-three week schedules. These long-schedule and behind-schedule pictures are creating a bottleneck of space, artists, technicians and equipment.

There is no doubt that the trade unions are going all out to prove that they can do as much in a five-day week as they did on the former week plus overtime. But producer opinion—although respecting the union drive—is that "it just can't be done."

Producers at Gainsborough, for example, have switched schedules from a weekly to a daily basis. Both current pictures at the Bush are on a 44- to 46-day shooting plan—nine weeks in production. Other producers are switching their methods of calculation as new pictures come into the floor stage.

It is estimated by production executives that, now there is a virtual no overtime ban, British studios are losing between eight and twelve hours a week, as against the old standards. Producers have extended schedules because they doubt if any man can make up for ten lost hours on a forty-four-hour week.

It becomes apparent as KINE. men check with each studio that the unions are standing by their no-overtime plan. If a producer wants to work overtime he must declare "a state of emergency" and put the matter to the studio works committee. Studio committees are not readily accepting pre-production plans for certain periods of overtime—but they are co-operating, in particular, in working overtime to speed up costly location work.

Producers are anxious that the union men should win their fight—and they are putting up a struggle. Because if less output is the result of the five-day week, then the increased pay packet is going to tell on the final production budget. And it is less easy each month to make a first feature on a budget trimmed for home market consumption.

Space shortage is named by many executives as a direct reason for the lack of output increase: but many admit that schedules are overlong. It is argued that Britain must equal Hollywood output on forty-day schedules if the industry is to succeed: a good film starts on paper and is not created alone by twenty-five-week schedules.

Changes of Policy

But KINE. investigations indicate that while production groups trim their programmes to meet the new implications of labour agreements and Government duty, there is an increasing need for central planning of the whole industry and by individual production groups.

Scores of subjects, on which weeks of work by many men have been spent, have been scrapped during the past nine months. Films have been scrapped because Technicolor cameras have been held up on long over-scheduled pictures; because stars (and there is a shortage of British stars) are not available; because of company changes of policy.

There have been many good reasons for delay. But, equally, many mishaps could have been avoided if pre-production planning had been brought into finer focus.

The lesson is plain that there has not been in the past nearly enough advance planning. This applies not only to hold-ups of films and switches in schedule, but also to the actual business of shooting, particularly in the matter of reducing time taken to strike sets and erect new ones. Only too often one sees vacant stages in our studios when one is visiting—not only empty, but with no signs of work of construction about to begin.

This kind of thing needs factory organisation. Without it valuable hours are lost and eventually—over the year—perhaps one less film is made than the studio could accommodate working at maximum efficiency.

This is what has happened to date to the 1947 programme:—

Producers announced 85 features, excluding any second-feature material. So far, of these scheduled subjects, 33 only have been completed, are in actual stages of production or are lined up for definite studio work during the next few weeks.

Change of plans during the spring and summer added seventeen features to the all-in schedule, all of which have either been made or are now in production.

A check on output from the major studios shows that since January of this year twenty-seven features have been completed up to the last week of September and, with three months to go, twenty-six films are in final stages of production.

If there is no sudden speed-up of production routine, the total top-grade features turned out by December will be fifty-three.

A breakdown of figures shows that studios are running like this: British National, four finished, one in production. Denham, three completed, two in production. Ealing, two completed and two in production. Pinewood, three finished and three in production. Shepherd's Bush and Islington, three completed and six in production stages. Sound City and Isleworth, five completed and two in pro-

A long-schedule picture nears its end as Warwick Ward and director Harold French consult over the construction of the last spectacular set for MY BROTHER JONATHAN (Associated British)

Korda and Quality

Sir Alexander Korda has gone on record as still being in favour of quality. This picture from his current production, BONNIE PRINCE CHARLIE at Shepperton, indicates that he is not sparing expense in securing colourful period costumes

duction. Welwyn, two completed and one in production. Other studios and "lettings" have made five films, with nine still on the production line.

As far as possible, the KINE. has checked the number of films placed on the 1947 production schedule up to June of this year, the total figure being between 115 and 120.

What happened to the missing sixty pictures?

Many of them, of course, remain on the shelf for later use: others are now ideas of the past.

Greatest programme switch was made by Sydney Box at Gainsborough. Eleven subjects—all given tentative 1947 dates, some with directors and stars lined up—were taken out of the programme. In their place Box put eight new pictures, many with fresh and ingenious box-office twists to their plot. Looking at the important factor of annual output, it looks as though Box will put nine films through the Bush and Islington during the current twelve months, compared with five or last year.

Two Cities has had a number of setbacks, with "Crewe," the Asquith subject "Beau Brummel" and others—making a total of seven—in the "not started" stage. Denham, with outside "lettings," should make six features this year. It may be seven, which was the last year's figure.

Ealing has made no drastic programme changes, heading for a steady output of five this year.

Cineguild put "Oliver Twist" into the Pinewood programme, has left unstarted two tentative subjects.

Sir Alexander Korda announced twelve for 1947 season production—eight looks like being the final figure. This is a considerable jump on the Isleworth and Sound City 1946 output.

Greatest hold-ups, appear to have occurred among the independent producers, many of whom have cut product because of studio space shortages. Thirteen top features have failed to see the light of day and scripts will doubtless lay on the shelf for next year's programme.

The small Alliance group, making no long-term plans during its initial months of operation, has handled seven subjects this year—and may make an eighth by December. British National—except for the change of plan when A.B.P.C. took over space for "My Brother Jonathan"—has carried out its 1947 schedule without serious mishap.

Here is the complete KINE. record of the 1947 programme in the easy-to-read style:—

BRITISH NATIONAL

"Green Fingers"	Completed
"Dual Alibi"	,,
"No Nightingales"	,,
"Henry VIII's Fourth Wife"	Not started
"Lost" (John Harlow directing)	,,
"Portsmouth Road" (McLean Rogers directing)	,,
"Case of 3 Weird Sisters"	Completed
"Princess Fitz"	,,
"So Died a Rat" (Paul Stein directing)	In production

DENHAM (Two Cities product)

"Precious Bane" (Soskin production, Granger named in cast)	Not started
"Vice Versa"	Completed
"Secret People" (Thorold Dickinson)	Not started
"Beau Brummel" (named for Asquith in Technicolor)	,,
"Crewe" (R. Beck named director, Burgess Meredith to star)	,,
"Airing in a Closed Carriage" (W. P. Lipscombe production)	Completed (as "Mark of Cain")
"Joanna" (Charles Saunders directing)	Not started
"Mary of Magdala (Margaret Lockwood cast)	,,
"World Our Cradle"	,,
Not announced at start of year, but put into production:	
"Hamlet" (Laurence Olivier production)	In production
"One Night with You"	,,

EALING

"Frieda"	Completed
"It Always Rains on Sunday"	,,
"Against the Wind" (set for March, 1947	In production
"Saraband for Dead Lovers"	,,
"Toilers of the Sea" (Cavalcanti set to direct)	Not started
"Scott of Antarctic"	In production

PINEWOOD

The Archers:—	
"Green Days and Blue Days"	Completed
"Red Shoes" (set for Technicolor)	In production
Cineguild:—	
"Take My Life"	Completed
"Blanche Fury"	,,
"The Gay Galliard" (for early start)	Not started
"Life of Mrs. Beeton"	,,
Cineguild did not announce	
"Oliver Twist"	In production
Individual:—	
"London Belongs to Me"	Not started (is next subject)
"Blue Lagoon" (Technicolor)	Not started (location is set)
Wessex:—	
"Woman in the Hall"	Completed
"Esher Waters"	In production
"Far from the Madding Crowd"	Not started

SHEPHERD'S BUSH AND ISLINGTON

"Dear Murderer"	Completed
"Good Time Girl"	,,
"Christopher Columbus" (Technicolor). Location set for April	Not started
"The Killer and the Slain" (A. Crabtree directing)	,,
"Marry Go Round" (Pat Roc—early production)	,,
"Forgotten Story" (1947, for Islington)	,,
"Four Poster" (Compton Bennett directing, start March 31)	,,
"Melba" (for Technicolor in September)	,,
"Little Boy Blue" (Pat Roc subject)	,,
"The Melody Lingers On" (start February 3)	,,
"Merciless Ladies" or "Doctor's Story" for Bernard Knowles to direct, start June 30)	,,
Two Naunton Wayne-Basil Radford comedies	Not started
"Panda" (start May 5)	,,
Gainsborough subjects not announced:—	
"When the Bough Breaks"	Completed
"Holiday Camp"	,,
"Miranda"	In production
"Snowbound"	,,
"Rescue"	,,
"Lord Byron"	,,
"The Calendar"	,,
"Easy Money"	,,

SOUND CITY AND ISLEWORTH

"Mine Own Executioner"	Completed
"Maria Chapdelaine" (Kinsman Productions)	Not started
"Bonnie Prince Charlie"	In production
"Round the World" (Orson Welles subject)	Not started
"Carmen" (Paulette Goddard subject)	,,
Carol Reed production	,, (now set for Oct. 1)
"Salome" (Orsen Welles in Technicolor)	Not started
"Courtneys of Curzon Street"	Completed
"White Cradle Inn"	,,
"West End Central" (originally for Brian Desmond Hurst)	,, as "Night Beat"
Korda Group subjects not announced:—	
"Anna Karenina"	In production
"An Ideal Husband"	Completed

WELWYN (A.B.P.C. and associate groups)

"Brighton Rock" (Charter)	Completed
"My Brother Jonathan"	,, at National
"For Them that Trespass"	Not started
"She Died Young"	,,
"Master of Ballantrae"	,,
"The Card"	,,
"The Guinea Pig"	,,
Not announced:—	
"Bond Street" (World Screenplays)	In production

OTHER PICTURES PLANNED:—

"The First Gentleman" (Columbia)	In production
"A Woman of No Importance" (by Oscar Wilde for London Films, made by Ortus in 1947)	Not started
"The Masquerader" (Hellman's Excelsior)	,,
"The Barbarian" (Hellman's Excelsior)	,,
"Treveryan" (Marcel Hellman's Excelsior)	,,
"The Good Earl" (Marcel Hellman's Excelsior)	,,
"Kiss Me Goodnight" (Marcel Hellman's Excelsior)	,,
"This was a Woman" (Hellman's Excelsior)	In production
"Milk White Unicorn" (Corfield Productions)	Completed
"Secret Kingdom" (Corfield Productions)	Not started
"Without Armour" (Corfield Productions)	,,
"Dancing with Crime" (Alliance)	Completed
"They Made Me a Fugitive" (Alliance)	,,
A Sid Field story from Wesley Ruggles	Not started
"St. Joan" (Pascal)	,,
"The Gay Ones" (Harold Huth)	,,
"So Evil My Love" (Paramount)	Completed
"Call of the Blood" (John Stafford)	Not started
"Quo Vadis" (John Stafford)	,,
Announced and started later:—	
"Escape" (20th-Fox)	In production
"Bond Street" (World Screenplay)	,,
"Idol of Paris" (Premier)	,,
"While I Live" (Dryhurst)	Completed
"Brass Monkey" (Alliance)	In production
"Just William's Luck" (Alliance)	,,
"Daughter of Darkness" (Alliance)	,,
"No Orchids for Miss Blandish" (Alliance)	,,
"Things Happen at Night" (Alliance)	Completed

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CO-OPERATE AND PLAN, SAYS A.C.T.

The attitude of the A.C.T. to the crisis developments has been much discussed in the Industry, with special reference to the ability of the Association to pull its full weight and at the same time take complete advantage of the improved conditions provided by the new wages and hours agreement. This article, the result of an interview in which "Kine.'s" Leonard Wallace put questions to George Elvin and Anthony Asquith, clarifies the A.C.T. attitude and throws some light on the Association's future efforts toward co-operation between producers and technicians.

THE situation in the production Industry, with the national challenge to better use of space and speedier and more efficient production, is one which will affect every worker, if an increased tempo and a more economical style of production is to be achieved.

The challenge is of especial significance to members of the unions which have only recently had their working conditions improved and their salaries increased by new agreements with the B.F.P.A.

In some sections of the studios the question has been asked: Can A.C.T. members, now working on a five-day week, give the increased effort which will be required to step up production to an unprecedented rate? This article, the result of a round-table talk between George Elvin, secretary of A.C.T., Anthony Asquith, its president, and Leonard Wallace, studio correspondent of the KINE., gives a clear picture of the methods by which the technicians believe that they can play their part in stepping up production.

George Elvin

The main planks of the A.C.T. policy are co-operation and planning. They need the co-operation of the B.F.P.A., says George Elvin, before the planning can be implemented. For this reason the A.C.T. has persistently sought a meeting with B.F.P.A. in order to discuss the whole question of co-operation, joint production committees and allied subjects. This meeting has now been agreed and will take place very shortly, in fact, it may have happened by the time you read this.

At this meeting, A.C.T. hopes that terms of reference and general working lines will be laid down for committee work on the setting up of joint production committees, advisory bodies, and rationalisation of methods; in short, a framework created for practical co-operation between producers and technicians.

The Forty-Hour Week

The A.C.T., Elvin and Asquith maintain, is in a position to make concrete suggestions for more efficient working, because it numbers among its members many of the best brains in every branch of the production Industry. Basically, the experience of most of its members is that more advance planning is required before pictures go on to the floor. Again, in every department, there are specialists of long experience who can suggest improvements for the working of their own particular branch of the business.

This knowledge is available, and the A.C.T. hopes that the producers and the Government will be prepared to listen to it sympathetically and make use of it.

I asked the point-blank question: Can the A.C.T. members now working to the shorter week, maintain the effort required to give more rapid production, even given some rationalisation of method as a result of fruitful discussion with the producers?

Elvin's reply was that the 40-hour week is not in practice a 40-hour week at all, but a safeguard. Most workers do, in fact, work many hours more than this minimum, but the agreement provides that they are adequately paid for overtime. The 40-hour week measure was essential, he maintained, to secure the welfare of the junior grades, who often in the past worked long hours without any payment beyond their standard salaries.

It is not intended to be applied rigidly to higher-grade workers, such as art directors, directors and lighting experts, most of whom, interpolated Asquith, almost live with the job in hand. Obviously, the art director who thinks of an idea in his bath and snatches a pencil and paper to get it down while the inspiration is hot, is not going to claim overtime, in spite of the wisecrack of one member of the B.F.P.A. when the 40-hour week was under discussion.

I then asked: Should any committees for co-operation with B.F.P.A. and the Government on practical lines be set up, will your Association take steps to see that your delegates will be men of specialised practical experience rather than men whom critics might be inclined to describe as "politicians"? The reply was that this would obviously be the aim, but it should be remembered that in the first instance A.C.T. officials, however humble, are freely elected by their fellow-workers.

My next question dealt with the lunch-hour break—need it be inelastic, as the terms of the agreement would appear to suggest? This, to me and I know to many producers, is an important point, since the whole spirit of the dramatic content of a scene may be lost by the players after a sudden break.

Lunch and Tea Breaks

The A.C.T. answer to this one was humorously put by George Elvin, who remarked that this clause was insisted upon because there is a higher incidence of dyspepsia in the film Industry than in almost any other. In fact, it's almost an industrial disease.

More seriously, he continued by stating that while the set lunch-hour break was arranged for the good of the health of the workers, technical crews would always be prepared to work on for a quarter of an hour or so, in order to complete a take, provided that the concession was not abused. Unfortunately, it had been the experience of many members that some directors were apt to extend the excess time progressively from day to day. It was to provide a safeguard against this type of abuse that the lunch-hour clause was fought for.

Tea-breaks, said Elvin, when I raised that subject, should not interfere with production. He pointed out that trolleys visited most stages and that, exceptional circumstances apart, it was usually possible for workers to have their tea without interrupting the shooting in progress. Where there were definite breaks for morning and afternoon tea, it was usually a domestic arrangement at the particular studio. If the management at these studios found that the set break interfered with production they could always suggest an alternative method of providing refreshment.

In the matter of the new salary agreement, I asked whether the large increases which most studios would have to bear would not have an unfortunate effect upon budgets at a time when reduction of costs was almost as vital as reduction of shooting time.

Elvin stated that in his opinion, the proportion of increase in costs due to raising of salaries to meet the new figures would in the case of most studios be comparatively small.

In many instances, workers were already receiving sums in excess of the minimums provided. It was, generally speaking, only in the junior grades where there would have to be increases and these would not, as a rule, be large ones.

Even so, I suggested, might not these perhaps very moderate additions to the budget make it difficult for the smaller independent producer to continue to operate? In reply to this question, Elvin said that the A.C.T. was always prepared to discuss special cases with the producers concerned, and, in fact, one or two had already been to see him and the cases had been sympathetically and fruitfully discussed.

Future Prospects

Both Elvin and Asquith took pains to stress the fact that A.C.T. has no wish to be either grasping or dictatorial. The aim of the new agreement was to safeguard the welfare of the "weaker" members: both pointed out that the majority of members had been well paid and had joined the Association with unselfish motives.

Both agreed that film studio work is something that cannot be run on strict trades union lines, but they believe that their Association gives its members the benefit of trade union protection and yet preserves the elasticity of outlook that is essential in a business that is at least half an art.

Anthony Asquith

It is in this spirit, they assure me, that the A.C.T. wishes to meet the B.F.P.A. to discuss the general subject of co-operation between the two bodies, and in which they hope joint production committees will be set up.

I left Elvin and Asquith with the impression that the A.C.T. is completely sincere in its belief that its workers can, given a free voice and an unbiased hearing, provide many constructive suggestions for the more efficient working of the Industry.

It is seeking a pool of brains with, I believe, the best possible motives. I think that any suggestion that the Association wishes to dictate to the producers in this respect is without foundation.

A great deal, however, depends upon the conduct of the individual members. Not the most efficient and selfless committee nor the most enlightened and far-sighted officers can get the results they plan and hope for if the worker on the floor slacks, or takes half a day off to go to a mid-week football game.

It is to be hoped that whatever measure of co-operation grows from the preliminary joint meeting, every individual will pull his full weight. The old maxim, "A fair day's work for a fair day's pay" is still the basis of efficiency in any industry.

G.E.C.

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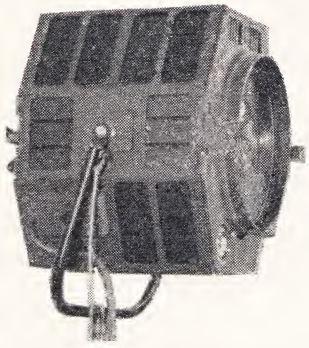

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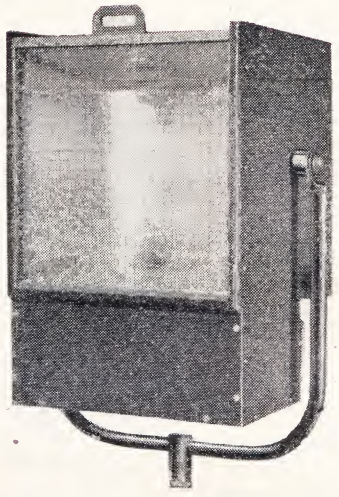

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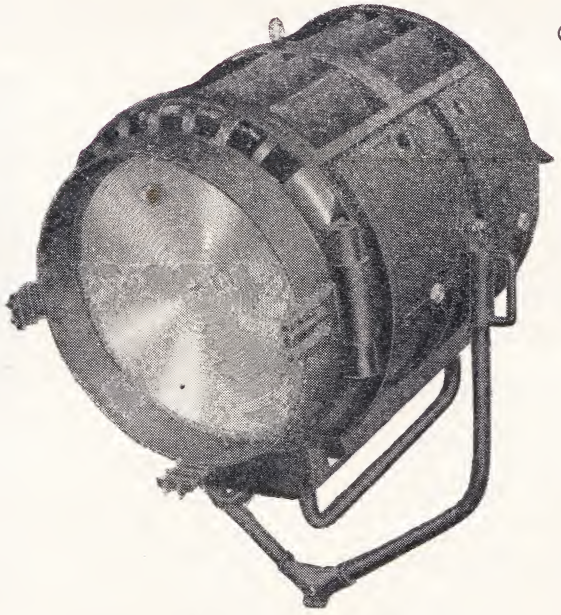

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NECESSITY THE MOTHER OF OUR INVENTION

Says LOUIS JACKSON

British National's executive producer tells the story behind his company's record of successful quick-fire production. Although he puts necessity as the inspiration, he emphasises that advance planning, strict adherence to schedule and close supervision are basic elements in the recipe for smooth and rapid production of good box-office pictures. In present circumstances his point of view is worth careful study.

Louis Jackson at a preliminary production conference with some British National executives. On his left director Alfred Travers; sound supervisor, Harold King; scenario editor, Jack Whittingham; and on his right script writer James Symons; director Montgomery Tully and production manager Fred Swann

NECESSITY, that very much publicised "mother," declared the policy that first set British National on a programme that demanded seven to eight successful and economically made pictures a year.

Given certain materials and circumstances, and told to go ahead and make a picture, you can either declare it impossible and close down, or use what ingenuity you possess and substitute improvisation for frustration.

What drove us to this policy of acceleration, at a time when others were adopting an ever-increasing one of deceleration?

Despite popular opinion to the contrary, history will show that it was British National, with the help of Michael Powell and Emeric Pressburger, who revived faith in British films, at the start of the war, by reopening Denham, which had been hastily clamped up, just after the outbreak of hostilities. The picture, the first fictional one of the war, was "Contraband," and was followed by "Gaslight," "Pimpernel Smith" and "One Of Our Aircraft Is Missing."

In those days we were in the happy position of having all the floor space, technicians and stars in the country at our disposal, but the success of these features had the effect of reviving faith in those badly frightened producers who had panicked to a shut-down, and, as one by one they gradually persuaded each other to come on in, and the water was fine, so we found our stars, our technicians and our space slipping away with them. We, who had boldly taken the initial and reassuring plunge, found ourselves being edged out of the swim by those who had stood on shore, tentatively and timidly toe-testing the troublous seas of war-time production.

Rearguard Action

Then the retreat began, with British National fighting a gallant but losing rearguard action from Denham to Teddington and from Riverside and Walton, until we finally stood firm, down here at Elstree. Admittedly, we had prepared a rod for our own back and certainly that is where those four hits, mentioned above, caught us.

I should explain that at the time we were making the big stuff at Denham we were busy with the bread-and-butter pictures in spots as widely dispersed as Teddington, Elstree, Riverside and Walton. Now we had to grapple with the problem of maintaining the same steady and consistent output with only the three Elstree stages in place of practically every stage in Britain. Though completely unaccustomed to this space famine, we set to work to devise a formula, and that it was successful was shown by the way the critics and the public received the Elstree-made "Love on the Dole," the picture that put Deborah Kerr on the road to stardom. It was the old . . . "or else!" formula, and when it comes to an alternative of inspiration or expiration, it's surprising what you can do with improvisation.

Using less space than almost any other company in the business, we still top the production poll with a record of 64 feature films from the beginning of the war until May, 1947, and in between times we were still able to turn out a lot of documentaries for the various Government Departments.

The secret? I wish you had not asked me that one. All I know is that we have got to do it, so we do it. I think if some other producers were subjected to the same harsh discipline to which old Mother Necessity subjects us, they could do the same.

A man given enough rope may eventually hang himself—certainly a producer given enough space will tell Father Time to do the same thing. Down here, were such a system permitted, we might just as well give up, because even a few days over can throw the whole year's schedule out of gear, though we obviously allow a certain elasticity for the inevitable and the unforeseen. If it were allowed to become the rule rather than the exception it would be eventual suicide.

Lack of space makes it essential that as one film comes off the floor another is ready to go on. There must be no overlap. The director, once he understands this, accepts it, and if he gets behind with one sequence he invariably makes it up in another.

Not Slave Drivers

Maybe it is just a question of practice. I don't think any of our stars or technicians look on us as slave-drivers or complain that they are particularly overworked. Maybe it is just that everyone in the studio knows that once we go on the floor they are going to have one helluva time persuading us to depart from the script, the settings or the situations. All that has been thrashed out weeks beforehand and everyone from the highest to the lowest has already had their chance to criticise or improve.

Given enough retakes, revisions or reshooting, you either become stale or hit on something brilliant, but mostly you become stale. We believe there is a freshness about the first takes, and even though the star or director thinks he might do better in the next one, we encourage the policy of printing the early ones.

Perhaps not a little of the secret is that most times you can find my production manager, Fred Swann, or myself, on the set, and certainly at all times we are on the spot and accessible, so that we can deal with any problems as they arise, and not on the day following, when we see it in the "rushes."

There is more sign of bustle and uproar in the big studios that turn out one picture every odd year than you will ever see at British National. I remember a well-known actor-producer who came to make a picture for us. He had expected it all to be one mad rush. "Working all those years over at Splendiferous," he told me, "I had forgotten how to make films. If I were boss over there, I'd insist on every one of my producers and directors taking a six-months refresher course at B.N."

Prestige Proportion

I quite agree that production quality is essential, but I still maintain that the time it has taken to get this quality is not justified in the final result.

I am definitely of the opinion that with the increased demand for British pictures a policy such as I have pursued for years is the only possible solution, apart from which I feel that the only way we can develop new stars is to put them into enough pictures, and I think it is wrong to spend £200,000 or more on a completely unknown artiste. A large number of technicians will not agree with me.

I am sure that the success of the Industry is dependent upon the production of more and more films. The American film Industry grew from small beginnings, and up to the present time the British film Industry has adopted exactly the reverse policy. Obviously, we want to get world markets, and it can only be done with a number of prestige films, but I claim that such films should only represent a maximum of 25 per cent. of our gross output. Unfortunately, every picture that is now being made is always classified as a "prestige" picture, although it may only have programme content.

Perhaps the greatest secret of all is having a willing staff who know their jobs and are allowed to go about them with the minimum of interference. Fred Swann has gradually gathered round him such a staff, and it is these technicians—or magicians—who perform the miracles. I only co-ordinate them.

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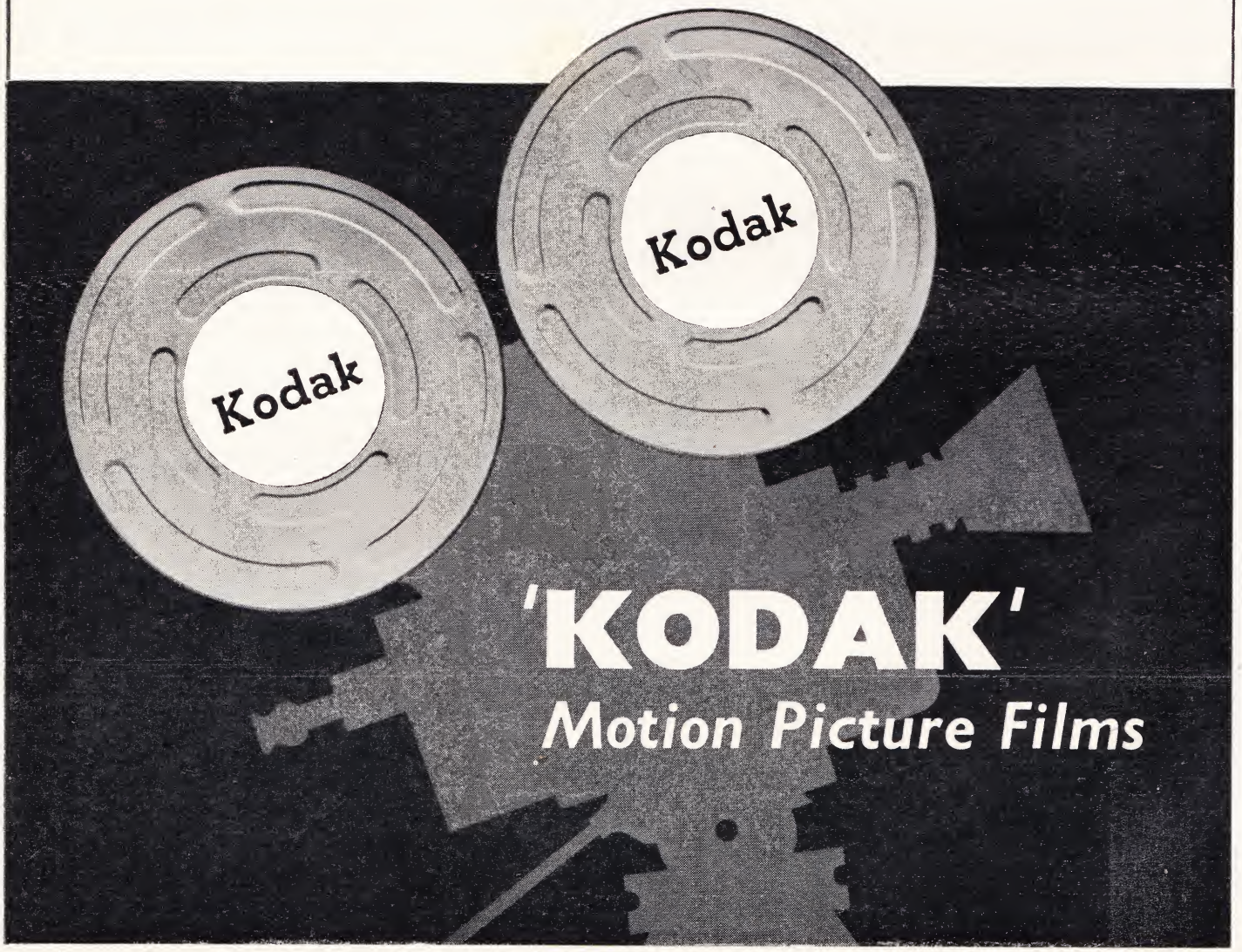

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TEDDINGTON STUDIO PREPARES FOR DUTY

During the flying-bomb period of the war Teddington studios were severely damaged by a bomb which fell behind the administration block. Extensive rebuilding and repairing has taken place during the ensuing years, and the studios are now ready for production. The following article, by a "Kine." Reporter, gives the details of what has been done to restore the studios and some account of facilities they now provide. So far they have not been used.

TEDDINGTON studios were officially capable of production by the first week in September, although some minor work of building and general tidying up still remains to be done.

Those who remember these pleasant studios in the days before the war will realise that in their rebuilt state, which follows the original plans with some improvements, they are a valuable addition to production facilities.

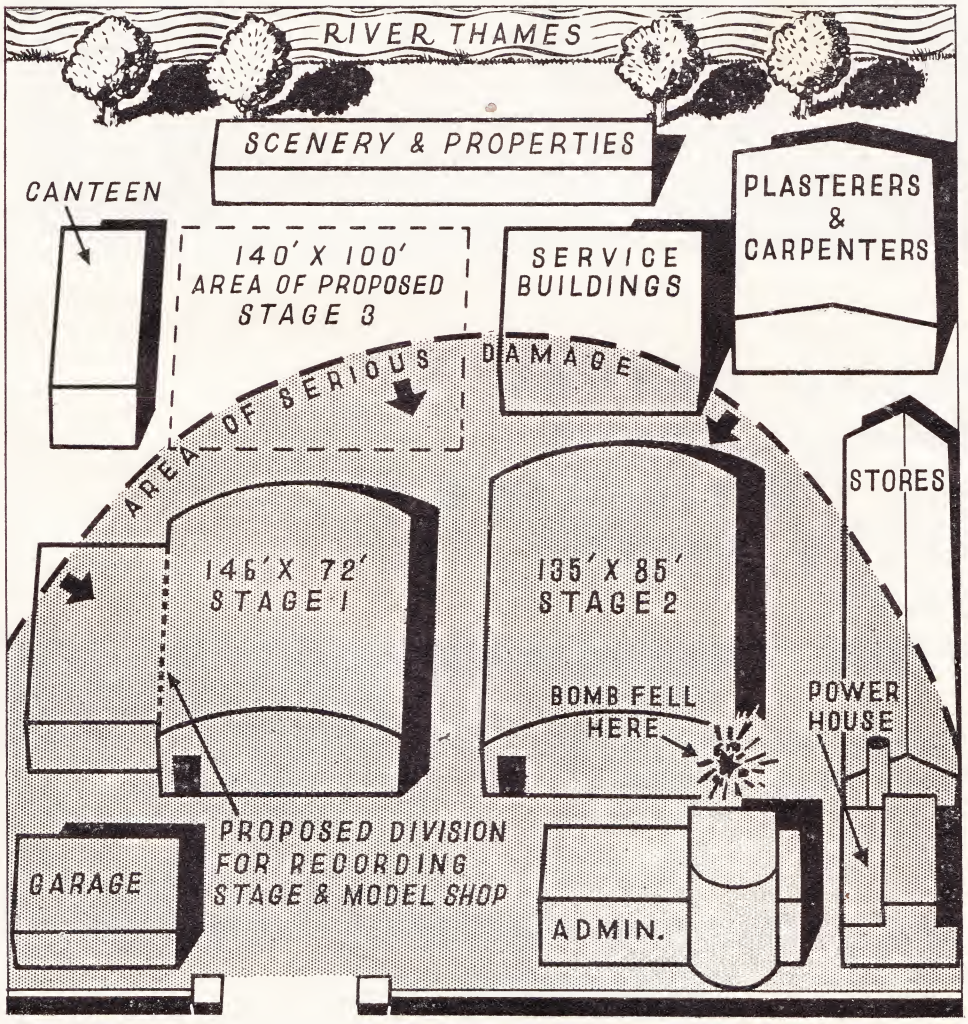
Teddington, before it was struck by a flying bomb, consisted of two stages with a trim administrative block in front of them flanking the road, and behind them perhaps the largest single scenery dock and property room in any studio in this country. In a line with this was the plasterers' and carpenters' shop: and in a line with the administrative building was the power-house.

The bomb fell just outside the power house, behind the western corner of the administrative building, actually striking a storage tank on the roof of the power-house before it touched ground and exploded. The accompanying diagram gives the plan of the studios and indicates where the missile fell.

The administrative building was shattered by blast; in it Doc Saloman and two staff members were killed. The power-house was severely blasted, but the most serious damage was caused by the bursting of a large storage tank, and the igniting of 20 tons of atomised oil which set light to the main stage (Stage 2) and completely gutted it. Stage One farther away from the seat of the explosion was badly blasted and nearly all the other buildings were affected to some extent by blast.

The reconstruction job, therefore, was a major operation. It involved the complete rebuilding of the administrative block, the power-house, Stage Two and the virtual rebuilding of Stage One.

The bomb damage claim amounts to something like £60,000, but the cost of rebuilding and re-equipping has been considerably in excess of that sum.



A diagrammatic impression of Teddington studios which shows graphically the main details of the bombing, rebuilding, and plans for the future

Stage Two, the larger of the two, has been restored to give a floor space of 135 ft. by 85 ft. It is double-walled and has four inches of sound proofing, the latter job being carried out by Callum's. It has three main scenery doors, electromechanically controlled, the work having been done by King's Engineering under the guidance of Callum's.

In one corner is a built-in and completely proofed booth which can be used as a sound-mixing chamber, but will normally serve as a projection room from which films can be screened during music-recording sessions. Teddington has no recording stage, and therefore this work must be fitted in either during breaks in production or between pictures.

There is space behind Stage One for a third stage, planned to give floor space of 140 ft. by 100 ft., but so far the Board of Trade has been unable to see its way to granting a licence for building. Now that it has been intimated that the Board is prepared to consider ways of augmenting production, its officials might do worse than allow the construction of this third stage.

The New Stage Two

It would enable Warners to carry out the plans envisaged by studio manager Jack Gilbert, who would like to see the small and rather inconveniently shaped Stage One divided into two parts, the larger to be a permanent recording stage and the smaller a shop for model and process work. This would mean an obvious speeding up of production and greater efficiency all round, but it cannot be done until a third stage is built.

Now to return to Stage Two. The neatly arranged girdering enables gantries to be slung and moved easily for overhead lighting. The galleries are reached by neat two-flight staircases. In general, the overhead aspect is neat and orderly. The general impression is of a spacious and efficiently equipped stage with ready entry for large items of scenery and properties.

This stage is flanked along its longer wall, which runs parallel with the roadway, by make-up and wardrobe rooms which are integral parts of the building. They occupy two floors above the entrance floor, and are topped by the plenum air-conditioning plant. The lay-out is longitudinal on either side of the staircase spiral. On the first floor are the women's make-up and dressing-rooms, and on the second, the men's.

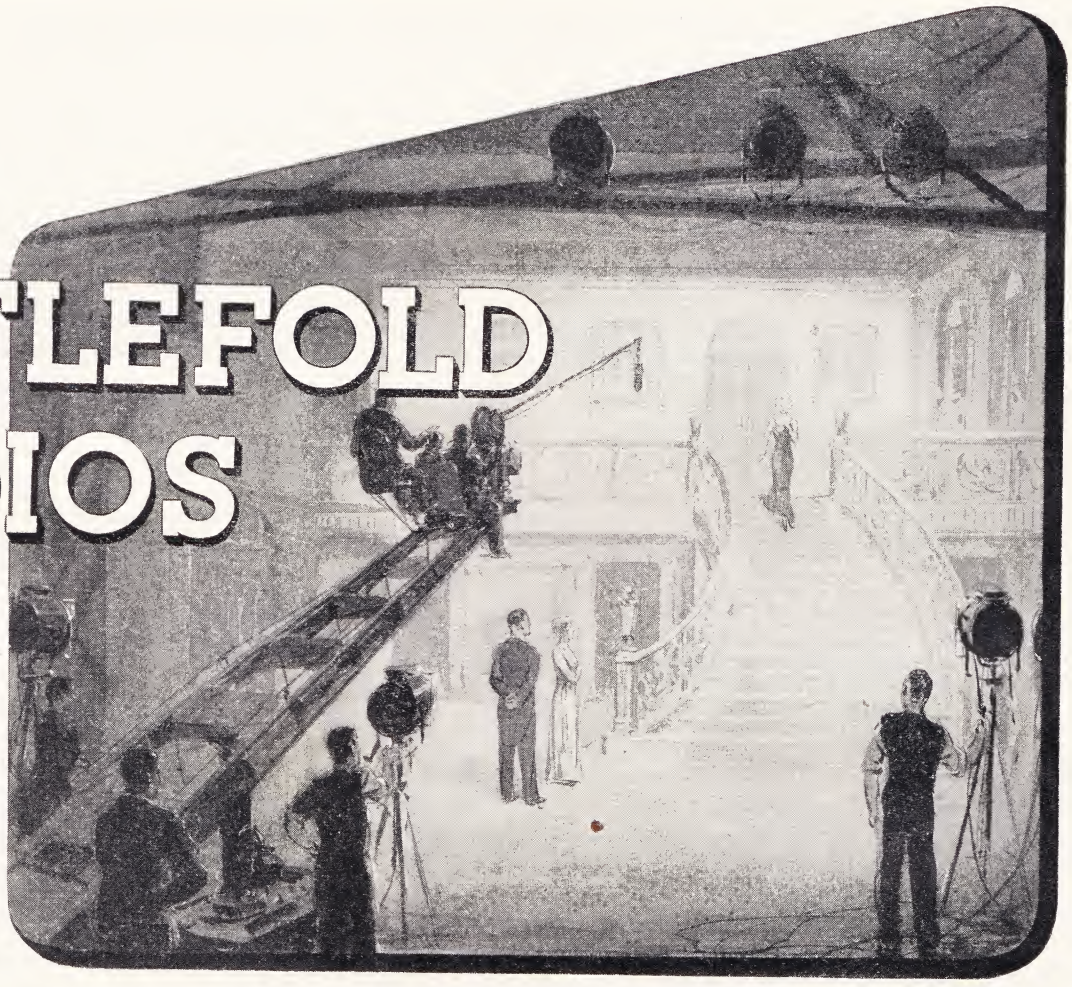
The provision for stars and featured players is adequate: that for the small-part and crowd players rather better equipped than is normal. Stairs from these quarters lead down to a pleasant main entrance, modelled on the lines of an hotel lobby, with revolving doors leading out of the stage and a vestibule between them and the actual stage doors. This lay-out has been planned so that filming can make use of the amenities as the basis for a modern setting.

The personnel doors leading on to the stage are controlled by automatic locks which prevent entry when the red light is on. There are master switches located both internally and externally to break the control in cases of emergency.

Stage One has, unfortunately, had to be rebuilt, according to bomb-damage regulations, following the original plan. As this stage was before the bombing one that had "grown," it fits no preconceived over-all

Continued on page xiii

NETTLEFOLD STUDIOS



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TEDDINGTON REBUILT

Continued from page xi

plan. It is, in fact, two buildings mated into one, with the result that the rather smaller portion is narrower and lower than the main part of the structure.

The rebuilding has been carried out to the same standards as regards soundproofing and facilities as Stage Two, but one cannot help feeling, as I know that studio manager Jack Gilbert does, that a little latitude in reconstruction would have allowed a far more useful stage to have come into being. At present there are handicaps which are not beyond the skill of the technicians to overcome, but which may restrict the size and shape of settings and pose special problems for camera crews.

The equipment provided for these two stages is generous and comprehensive. Gilbert tells me that as soon as the studio damage was assessed, application was made for replacements, and since then every effort has been made to secure new equipment of various kinds. The result is that the studios are now in an enviable position in this respect.

The sound system is RCA push-pull. The arcs are by Mole-Richardson and the incandescents by Mole and Hewitt. Mitchell cameras—the favourite with most British cameramen and a job that has proved itself beyond question—ensures first-class amenities for cameramen.

The studios' auxiliary buildings, consisting of property block, carpenters' and plasterers' shop, and general stores, were less severely damaged than the stages. The effects of blast have been dealt with efficiently, and sometimes, as in the case of the stores, very much by make-do-and-mend methods. Last winter there was some flooding from the swollen river, but future risk of this happening has been precluded by the building of a flood wall along the area of possible danger.

Some of the most successful work of reconstruction has been carried out in connection with the power-house, which was almost completely destroyed. The new equipment consists of Ruston and Hornby diesels. Thus, the studios are independent of local power corporations as long as it can maintain supplies of oil.

There are two 10-ton A.C. installations and two 40-ton D.C. plants. The A.C. jobs are 170-h.p., 750-kwt. 3-phase motors running at 600 r.p.m. The D.C. installations are 540-h.p. generators producing 370 kwt., turning over at 500 r.p.m. Total power output is over 1,000 kwt., or sufficient to service the whole of Twickenham.

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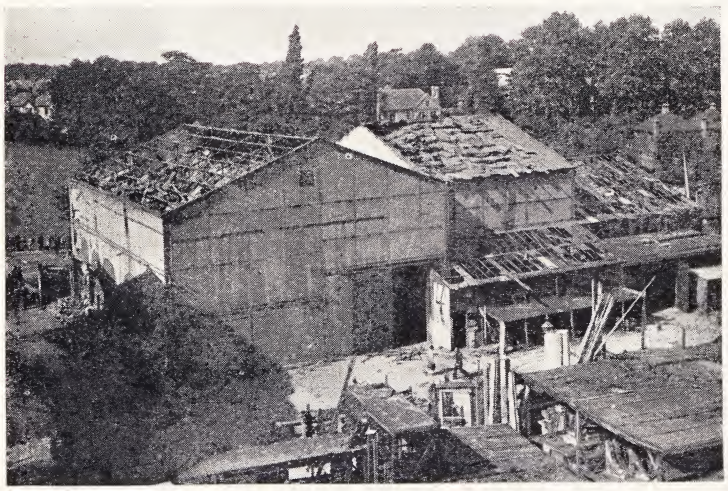
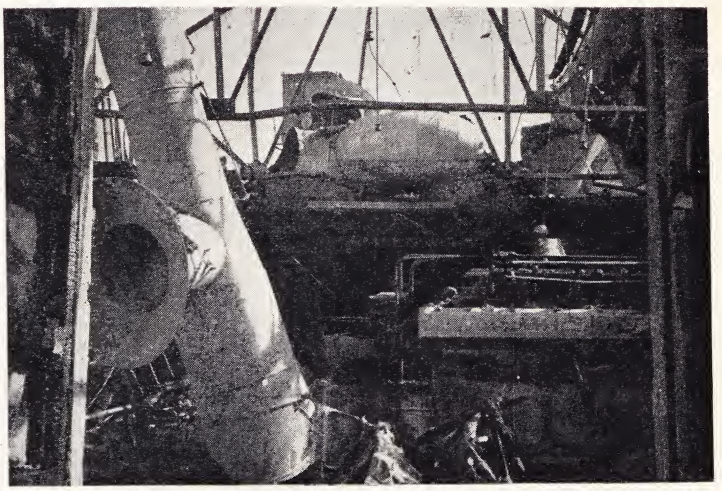
The administration block, which used to give the studios such an attractive road frontage, has been rebuilt attractively, but it is not yet finished internally, and there is a general tidying up of the actual frontage, to be done before the studios will have recovered their pre-war trimness.

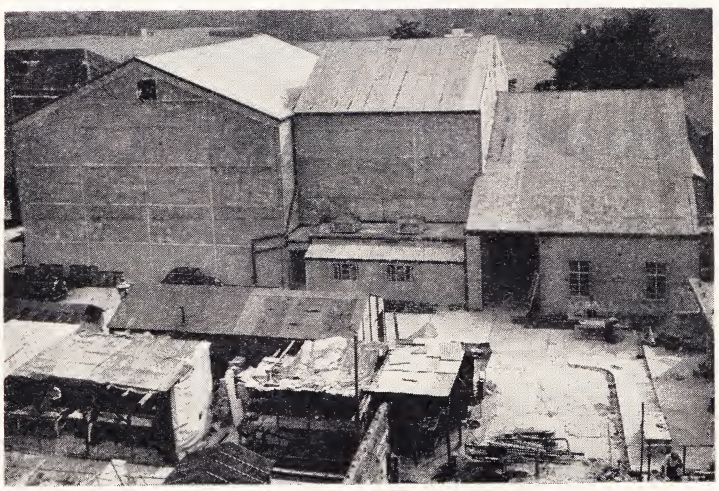
For all practical purposes, however, Teddington is a fully reconditioned and up-to-date production unit capable of turning out one major production at a time. The addition of the mooted Stage Three would not, says Gilbert, mean that two pictures at a time could necessarily be accommodated. It would mean, however, a 50 per cent. production increase, especially if the existing small stage were simultaneously converted into a recording studio and process shop. As it stands, the new Teddington is a valuable addition to the Industry's floor space, and one hopes that the fullest possible use will be made of it.

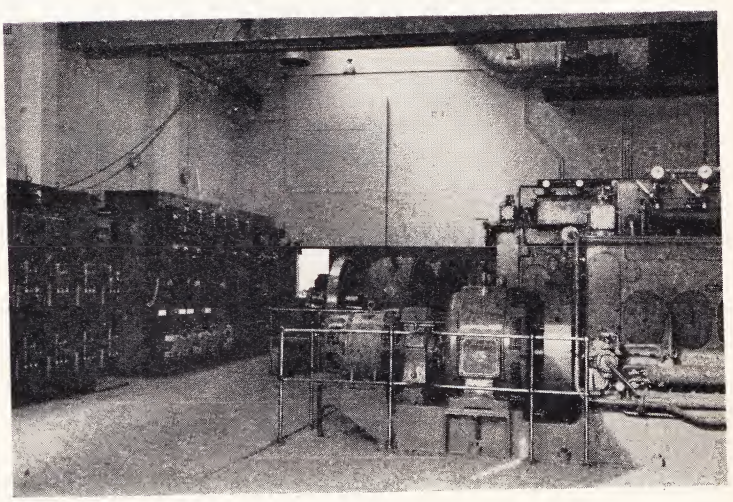


Above : Stage One as it appeared after the bombing, virtually destroyed. Below : The same stage as it appears to-day, shown from almost the same angle



Above : The power-house after it was shattered by the explosion. Below : A view from a similar angle of the new power-house





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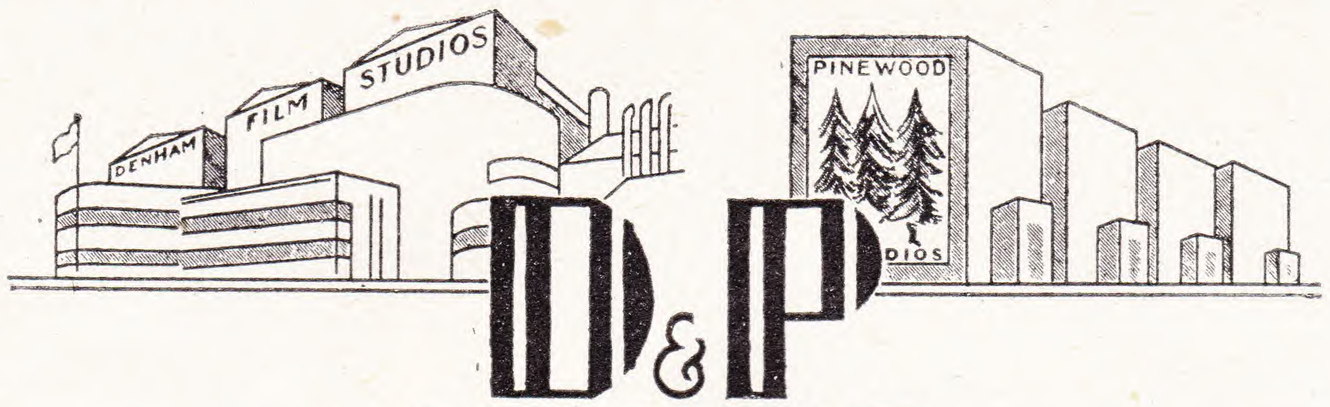

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"Captain Boycott."
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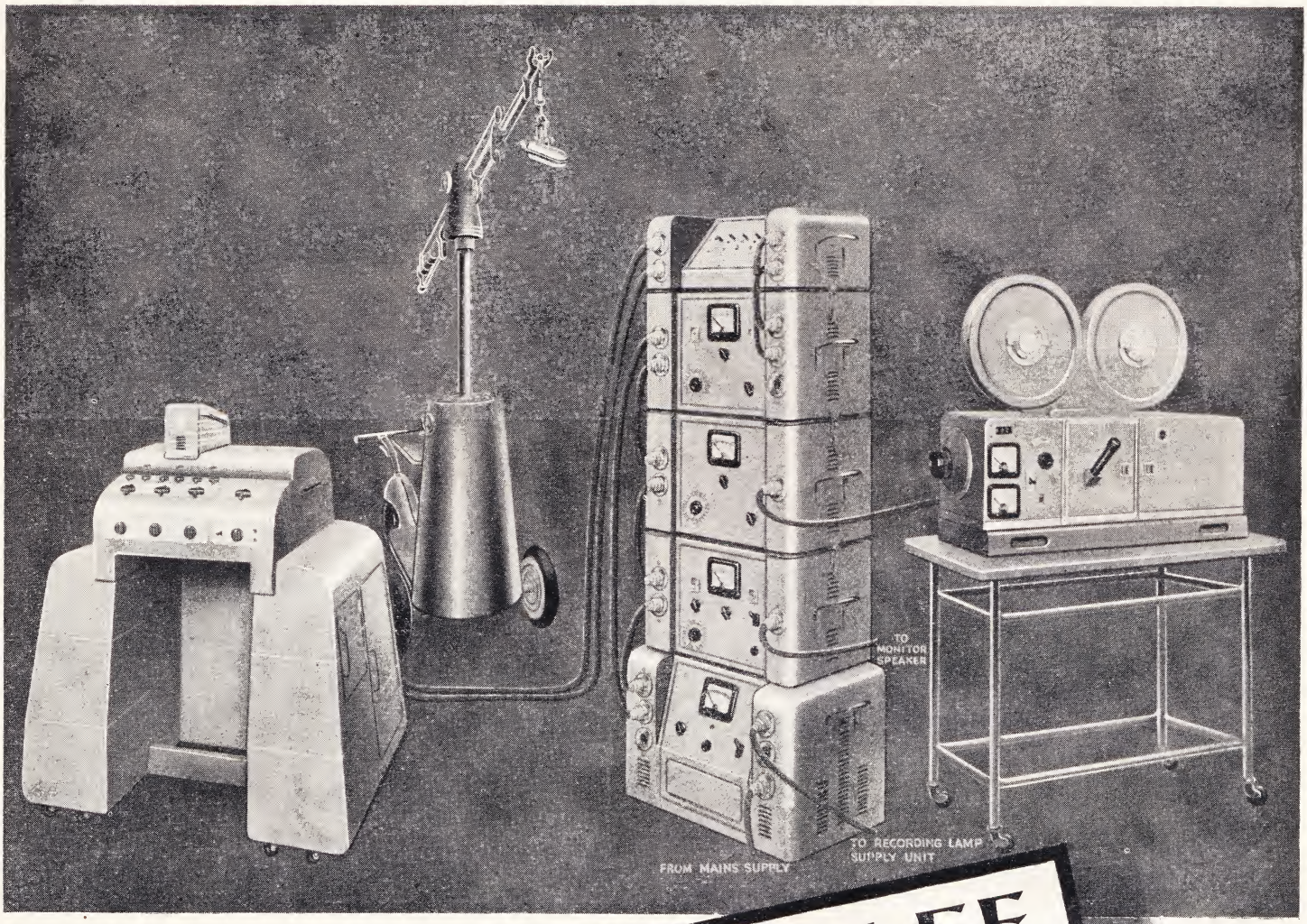
"So Evil My Love."
"Hamlet."
"Vice Versa."
"Oliver Twist."



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SPECIAL EFFECTS TEAMS SAVE TIME AND MONEY

In this interesting article "Pop" Day, special effects specialist at Shepperton studios, outlines the part which departments such as his can play in saving time and costs in production. He makes the further point that trick work often saves danger to actors and technicians, and maintains that the lack of the human element makes it easy for scenes done by his department to be shot on schedule.

THE Special Effects Department is frequently regarded by the uninitiated as a sort of Merlin's cell, wherein strange and dark mysteries of trick photography are effected for the wonderment of the general public. That some productions call for obvious trick effects is well known, but it is certainly not the chief function of the department in question to provide a background of elaborate optical conjuring tricks.

In point of fact, always provided that there is close co-operation between the Special Effects Department and the Art Department Drawing Office, the work done by the former can effect a tremendous saving of expense, time and physical danger. Without the services of this department, days and, indeed, weeks, might be wasted in building expensive location and set lots and in constructing elaborate, full-size models.

To illustrate the point with an example, sequences in "Anna Karenina," which is at present in production at London Film Studios, Shepperton, called for shots of a complete Russian railway station of the period 1890, together with engine and rolling stock and permanent way. Obviously, were a complete station built, tracks laid, a modern railway engine converted into one of the period in question, and carriages and trucks similarly built, the time and money involved would have been colossal.

Thanks, however, to the Special Effects Department, the entire job was carried out with special models in but a fraction of the time and at an incomparably lower cost. And as far as the audience will be concerned, there is nothing to point to the fact that the railway sequences were, in fact, made with models inside the studio and were thus not at the mercy of the vagaries of the clerk of the weather.

But it is not only in producing major illusions that the Special Effects Department serves a useful purpose in modern picture-making. On innumerable occasions the ingenuity of the experts concerned can solve some problem that would prove difficult, if not insoluble, to director and camera operator.

For example, during the making of "Henry V" the problem arose of how to record the flights of arrows released by the English bowmen at Agincourt in such a way that they would be clearly discernible to the audience. We solved the problem by having a quantity of tiny arrows made and then photographing them against a black background, moving their positions in a regular and methodical manner.

By these means the flights were clearly seen in the completed picture, and none of the illusion was destroyed as flight after flight appeared to speed to their target, fired as only hundreds of highly trained bowmen could fire them.

Of course, all this took a certain amount of time. But I can assure you that it was nothing compared to the time it would take to train hundreds of archers—and *my* arrows could be relied upon to find their objective every shot!

I referred at the start of this article to the fact that the Special Effects Department can be instrumental in saving risk to life and limb. Let me cite briefly one such instance in a recently completed picture, London Film Productions' "Mine Own Executioner."

One of the dramatic highlights of the picture occurs when Burgess Meredith, as a lay—psychiatrist, climbs to the very top of a London Fire Brigade turntable ladder in an abortive attempt to prevent one of his patients from killing himself on the roof of a high building. To build up and sustain the thrill and suspense it was vital that the impression of great physical danger be created.

Meredith had to be seen swaying precariously on the topmost rungs of the ladder with the vast panorama of London stretching out far below him. Had the actor in fact ascended to the top of the ladder and there been "shot" from a neighbouring building, he might well have been overcome by vertigo and thus have lost his hold on the rungs with disastrous results.

In order to obviate any such risks the Special Effects Department took a hand in the game. A section of the top part of the ladder, some twenty or thirty feet in height, was built and matte shots taken. When the artist had thus been photographed against a black velvet backcloth, the film was developed and another image superimposed upon the black portion of the film.

Thus, Burgess Meredith is seen clinging grimly to the swaying ladder what time the wind howls round him and a vast view of London reels far beneath him.

This is, of course, a simple form of special effects work, but it is no less important for that. For even though nothing of outstanding photographic originality is aimed at, the fundamental purpose of the shot is achieved in that what would have proved a tricky and dangerous shot was rendered one of simplicity.

There are, of course, other forms of trick effects that are regularly employed by the department. Chief among them are the back projection shots which are frequently used to show street scenes as viewed from the windows of a car or taxi, and scenery that is passed by a speeding train, and that form of optical printing in which the images of two cameras converge at a central focal point.

The results of the forms of trick photography employed by Special Effects are intended to bring a strengthened realism to a picture, and in this they succeed admirably. But they achieve far more than an added pictorial value.

The ever present question of keeping down production costs as far as is possible is a very considerable factor in the use of all forms of trick photography. Indeed, I estimate that, owing to its great time-saving potentialities, the work of the Special Effects Department for one week usually costs less than does half a day's work on the floor of the studio.

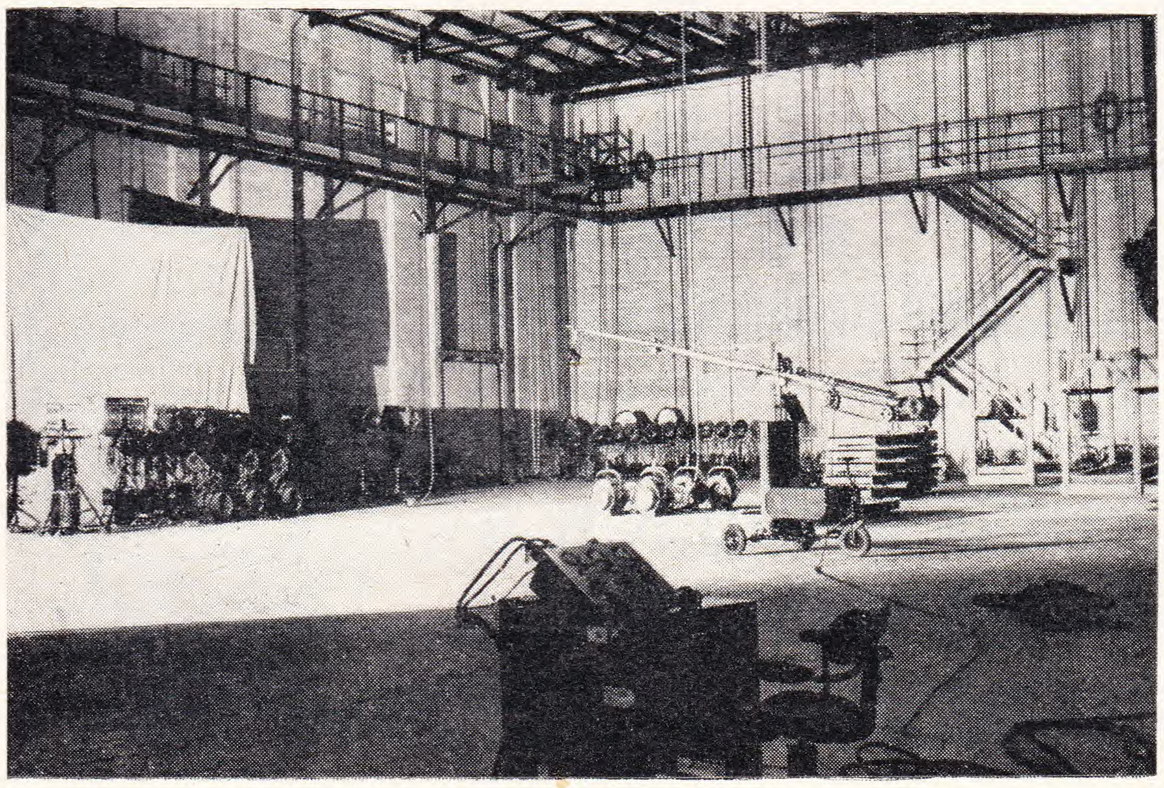
The point that such work frequently eliminates the risk to life and limb is one which I have already made. But there is another important factor which must not be overlooked in assessing the value of the department in the course of producing a picture. And that is the ability with which a shot can be controlled more minutely than is ever possible when taking an ordinary shot.

The personal equation which all too often proves a stumbling block in the way of smooth and rapid shooting is eliminated when trick photography is used. Models cannot have "off days" and they will obey the expert who handles them unquestioningly and repeatedly.

Thus, once the preliminary work has been completed and all is ready for shooting we can say with a certainty that may well be a cause for envy where a director is concerned: "This will be in the can at exactly the time promised."

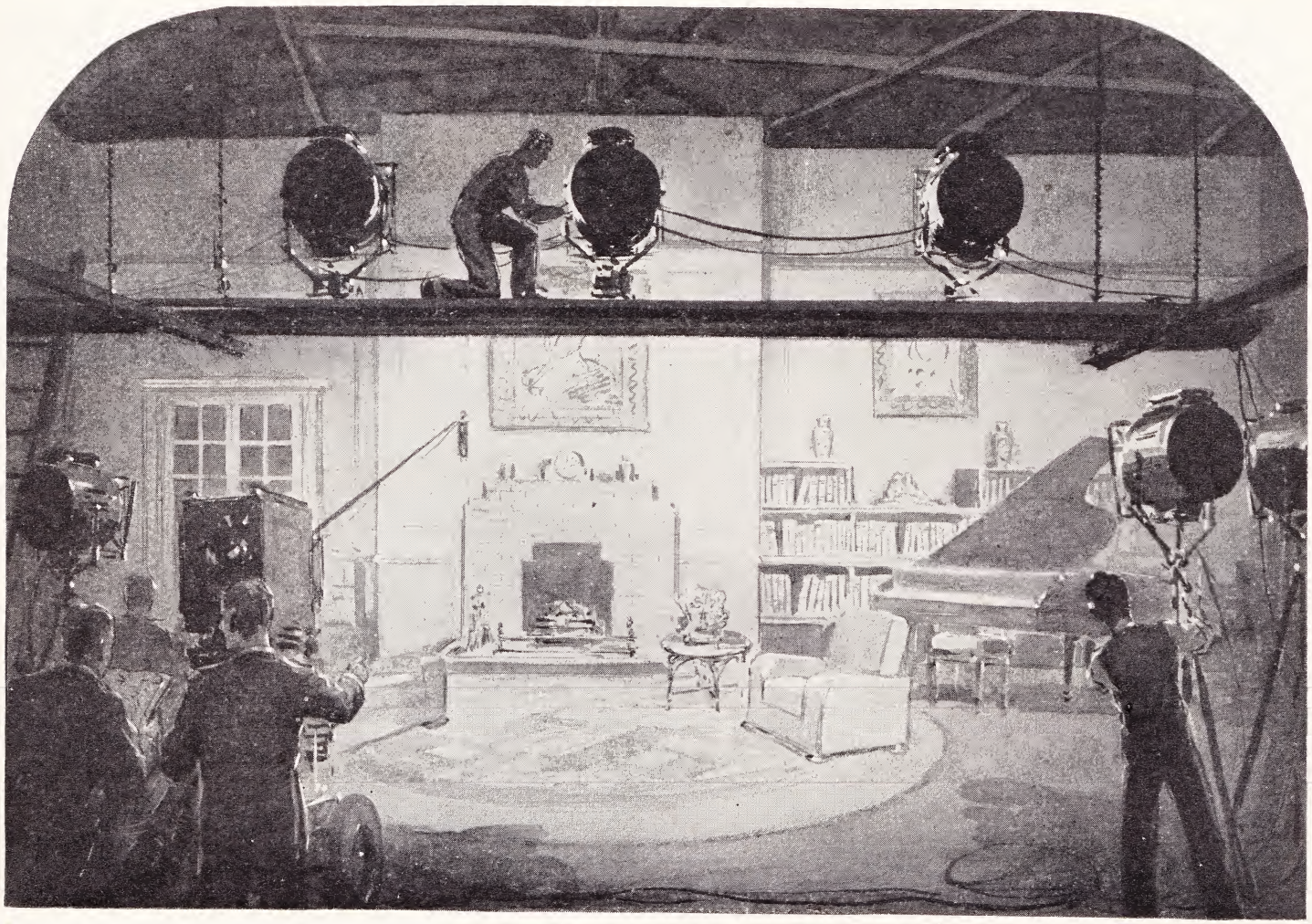
And, believe me, that counts for a very great deal in these days!

"Pop" Day (left) with Vincent Korda, art director at Shepperton, and Phil Brandon, associate producer, consulting on the outdoor lot



Ready for Work

A view of the interior of Stage Two at Teddington, showing a selection of the equipment. This is the larger of the two re-built stages and will accommodate large scale sets for any type of major production



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A FEW LEADING QUESTIONS ABOUT REDUCING SHOOTING TIME

This article by Howard Cricks takes a practical line in examining ways and means by which British producers and technicians may reduce shooting schedules. Cricks, whose long experience of the practical side of the business and whose technical qualifications are well known, asks definite questions, each one of which embodies a sound suggestion. He points out in his article that he is suggesting nothing new, but his selection of specific items indicates that, whether his suggestions are new or not, there is plenty of scope for rationalisation in the fields he has touched upon. Many technicians will agree with what he has to say. They, too, may realise that there is sound common sense in the points he puts forward. Can they find the means to put the recommendations into practice?

THE decree has gone forth that British films are to cost less. Insofar as this means that the output of our studios will be increased, it represents the only logical reply of the film producing Industry to Hugh Dalton's tax.

However much British production may be increased, it cannot fully replace the footage which Hollywood threatens to withhold from British screens. Therefore, a drastic increase in British output through a shortening of production time is of vital importance. The need is made still more urgent by Sir Stafford Cripps' recent pronouncements.

Let me admit that studio technicians with whom I have discussed this possibility of shortening production time are wholly opposed to the idea, holding that it will inevitably lower the standard of production, and put our films back to where they were ten years ago. Sydney Box, in a recent article in the KINE., suggested that he supported this view.

I feel, therefore, some temerity in suggesting that a cut in production time is both necessary and possible. But after all, the outsider often sees most of the game, and it is possible that I, a mere casual visitor to studios, whose practical studio experience is a quarter of a century back, may see at least apparent inefficiencies which, if they cannot be defended by producers, should be remedied.

Writers and Stars Exempt

Let me first emphasise that there are two directions in which production costs cannot and must not be cut: in stars and in writers. We may begrudge the large proportion of production costs represented by the stars' salaries or percentages, but if we underpay our stars they will simply emigrate to Hollywood. Under-payment of writers was the cardinal fault of British pictures of the pre-Rank era.

Retrenchment is going to be at least very difficult in the case of salaries and wages of technicians and other studio staff. Recently accepted demands of the unions will inevitably increase production costs considerably. Equally, little reduction is possible in the many technical costs of production—film stock (although the introduction of the 17.5-mm. sound negative will effect a certain saving), equipment, carbons, and inkies.

This still leaves two major items of expenditure in which cuts can and must be made: shooting time and set construction. However, I am not so much concerned in this article with the cutting of costs (although I believe this to be very essential in the film Trade of the future) as with the cutting of production time, and hence an increase in output. It is my contention that, provided these two factors of story and stars are maintained at their present level, and provided, too, that increased care is given to pre-production planning, *shooting schedules can be enormously reduced without any sacrifice of the popular appeal of British films, either in this country or abroad.*

One of the difficulties of British production is, as a technician put it to me recently, that a director directs not for the public, but for his fellow directors—a cameraman shoots not for his audience, but for other cameramen; sets are designed not for the picturegoer, but to withstand the criticism of other art directors. The result is that, technically, we aim at an unnecessarily high level—a level which we just can't afford to-day.

Some time ago I saw in the same week an American and a British film of similar calibre. At some of the production technique of the American film I sat and writhed—at the obviously painted backgrounds, at the hot-spots in the B.P. screens, the studio quality of supposedly exterior recording—even the old, old fault of waggon wheels going backwards. Compared with it, the British film was a masterpiece of technique. But I have not yet met a layman who found any fault with the American picture; therefore, I maintain I am all wrong in criticising it—it was the British film that I should have criticised for being so much better than it need have been.

A view of the escalator specially built for A MATTER OF LIFE AND DEATH (the Archers). The writer considers it could have been produced by the special effects department equally strikingly

It is not for an outsider such as myself to attempt to teach production people their jobs. But in course of my visits to studios I have frequently wondered at certain features of production. May I put my observations in the form of questions, which any technician is at liberty to answer with scathing criticisms of my ignorance, provided he is able to give sound technical reasons with his comments.

Economies must start with the script—not in payments to script writers, but in the absence of expensive production work called for by the script. Therefore, I ask first—

Must the script contain so many close-ups?

Whether a set-up runs for 10 ft. or 100 ft., there is little difference in the overall time it will take to set up and shoot. Will the film lose so much in entertainment value if fewer and longer scenes are used?

Not So Elaborate

Need sets—especially period sets—be so elaborately built?

In other words, should parts of the set not in the camera angle, or at a distance from the camera, be built in the same detail as the more prominent parts of the set? One sees a colonnade of pillars—those distant from the camera are built in exactly the same way as those appearing in close-up. Many a set in a low-key scene could surely be indicated merely by a few daubs of paint. Following upon this question:

Could not economy be effected if the set designer were to collaborate more closely with the cameraman?

I saw a set recently which had been built so high that it was impossible to secure adequate top-lighting, and surely impossible for the camera lens to have reached the top of it.

One minor dodge which might effect quite an economy: if the camera was set fairly high, pointing slightly downwards, the set would not need to be built so high: floor space is less costly than height in a set.

Another point: the cameraman might advise the art director that the use of a deep set necessitates a smaller lens stop, and hence a double increase in the number of lights, more units to cover the depth, and a greater intensity to allow for the smaller lens stop. Is depth of set always necessary?

Striving for Accuracy

Need we strive for undue accuracy in sets and locations?

It has always puzzled me that, while a script writer will take unpardonable liberties with historical fact, when these inaccuracies are translated into celluloid the minutest detail of set, location and costume has to be scrupulously accurate.

If a scene is set in Vienna or Timbuctoo, not a fraction of 1 per cent. of the audiences will know whether it is actually Vienna or Timbuctoo, or a set on the lot built from picture postcards. Need a location unit be sent to Vienna or Timbuctoo?

In historical drama, it will take an expert to recognise anachronisms or décor or costume; need exhaustive researches be made into details of authenticity?

Should the director or anybody else be allowed to change his mind once a scene is on the floor?

It is reported that in certain American

Continued on page xxi

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REDUCING SHOOTING TIME

Continued from page xix

studios, the producer's signature is needed to the slightest alteration from the written script. This ruling has two beneficial results: it eliminates those long huddles on the floor which, pre-planning notwithstanding, still occasionally take place; and it avoids any risk of errors in continuity.

Whether one answers this question in the negative or in the affirmative, it introduces the question of re-takes. There was a time a few years ago when Denham became known as the house of re-takes; whenever one went there one saw crowd artists from a film supposed to have been finished months ago (I offer no prizes for naming the film which was the worst offender in this respect). Maybe the finished film was improved by second thoughts; but would the audience ever have seen the difference between the original and the re-take? That surely is the deciding factor—and remember that audiences have been known to fail to notice the cutting of a reel!

Need so much surplus footage be shot?

This I suggest is the crux of the present problem. An excellent measure of the actual shooting results is to be found in the rushes (one must bear in mind those takes that are not printed). I have at various times seen rushes of both large and small productions. A short time ago, for instance, I saw a couple of reels of rushes of a film which must presumably be ranked as a major production, since it featured a leading star. I estimated that not more than 50 ft. to 100 ft. of this material would find its way to the screen.

Contrast with Television

Much of the material should never have been shot. We heard the same piece of dialogue repeated with different camera angles; obviously, a certain amount of covering material must be allowed for the editor, but by no means as much as this. Some of the footage bore the appearance of having been an inspiration of the cameraman, who saw a marvellous angle and insisted on shooting it: photographically very desirable, but we can't afford such luxuries.

It is largely because of this costly method of production that the average day's output of a unit is 1¾ minutes of screen time. A unit that gets three minutes' screen time into the can has done exceedingly well. Contrast this with the programme time achieved for television at Alexandra Palace—measured not in minutes, but in hours per day.

Less Trucking, Please

Would it not be often advantageous to use two cameras from different angles?

To avoid an excessive number of set-ups in course of, say, a dialogue, and yet maintain the frequent change of view-point which makes for rapid tempo and shows, the reaction of the speech, would it not be possible to shoot two negatives from two cameras, possibly leaving it to the editor to cross-cut as he might think fit?

It has, of course, been said that screen actors cannot memorise long scenes; stage actors have to—the answer seems to be, to get artists who can.

Need trucking shots be used quite so often?

From the point of view of the cameraman the most costly type of shot is the trucking shot. The mapping out of the shot and the laying of the rails represent the least cost; it is in the repeated rehearsals and the probable mishaps—incorrect speed, wrong angle, wrong focus—that time is dissipated.

A trucking shot has definite psychological significance in a film, but is its cost always justified?

Could not floor costs be reduced by a greater use of special effects?

When I saw "A Matter of Life and Death," I thought that the moving staircase sequence was quite a good bit of trick work, but definitely trick work. I was surprised to learn later that a £3,000 escalator had actually been installed for this sequence. I am quite sure that a perfectly acceptable illusion could have been produced by the special effects department at one-tenth the cost, and occupying floor space for one-tenth the time.

Every art director should, I suggest, spend a few years in the special effects department as an essential part of his training, so that he may know from personal experience what are the possibilities and the limitations of special effects, and may use the department for its logical purpose, the cutting of production costs.

What About Optical Printing

Is B.P. the best method of inserting a background?

If a B.P. shot is to be acceptable, it necessitates the use of long-focus lenses on projector and camera, which in their turn call for considerable studio space if a large screen is to be used. There seems to be inevitable delays in focusing, synching, and so forth—delays which add enormously to the floor time of a production, and which often prompt a producer to decide on a straight shot rather than B.P.

Could not most background shots be more cheaply produced by the optical printer? According to the type of shot, either a stationary matte or a travelling matte might be used. Apart from the fact that the optical printer does not occupy studio floor space, in many instances—notably large exterior backgrounds—the optical printer, as we have seen in a few productions, can reproduce an exterior negative with full photographic quality which is inevitably lost in B.P.

Is it necessary to shift so many lights for a new set-up?

Most of the time occupied in moving to a new camera set-up is represented by the moving of lights. Would it not be an economy to use an increased number of lights, which could be positioned in advance for several set-ups, those lamps not needed being merely switched off?

I know lamps to-day are scarce, but new models are gradually becoming available. This is, incidentally, the principle used at Alexandra Palace, but here quality inevitably suffers because it is generally not possible to shift lamps or switch on or off when a new camera is switched in.

Need the restaurants and canteens be quite so crowded at coffee time and tea time?

Could not coffee and tea be served on the set at a convenient break in shooting, instead of allowing everybody to disperse and waste at least half an hour of shooting time?

Why at the end of a production does one see deserted stages which may be empty for days?

Is it not possible for advance planning to ensure that immediately one set is struck, the stage can be brought into use forthwith for the next set, possibly for the next production?

Probably the producer who is hiring the stage congratulates himself upon the fact that he is not paying for the idle period; but if he isn't, who is?

To summarise all these questions in one:

Cannot a less proportion of production be done on the floor, and a greater proportion off it?

Studio space is the limiting factor to British production, and represents the most costly item in the production budget; therefore, any pre-production planning that economises floor time—any item of production that can be left until after shooting—is a valuable contribution towards reducing costs and increasing output.

The Colour Angle

I have sometimes thought that the editor and the sound people are the only really efficient technicians in the studio, because so much of their work is done off the floor. I take the view that only those special effects which are done in the privacy of a back room—such as optical printing and matte shots—are really efficient, and that special effects on the floor are an expensive luxury.

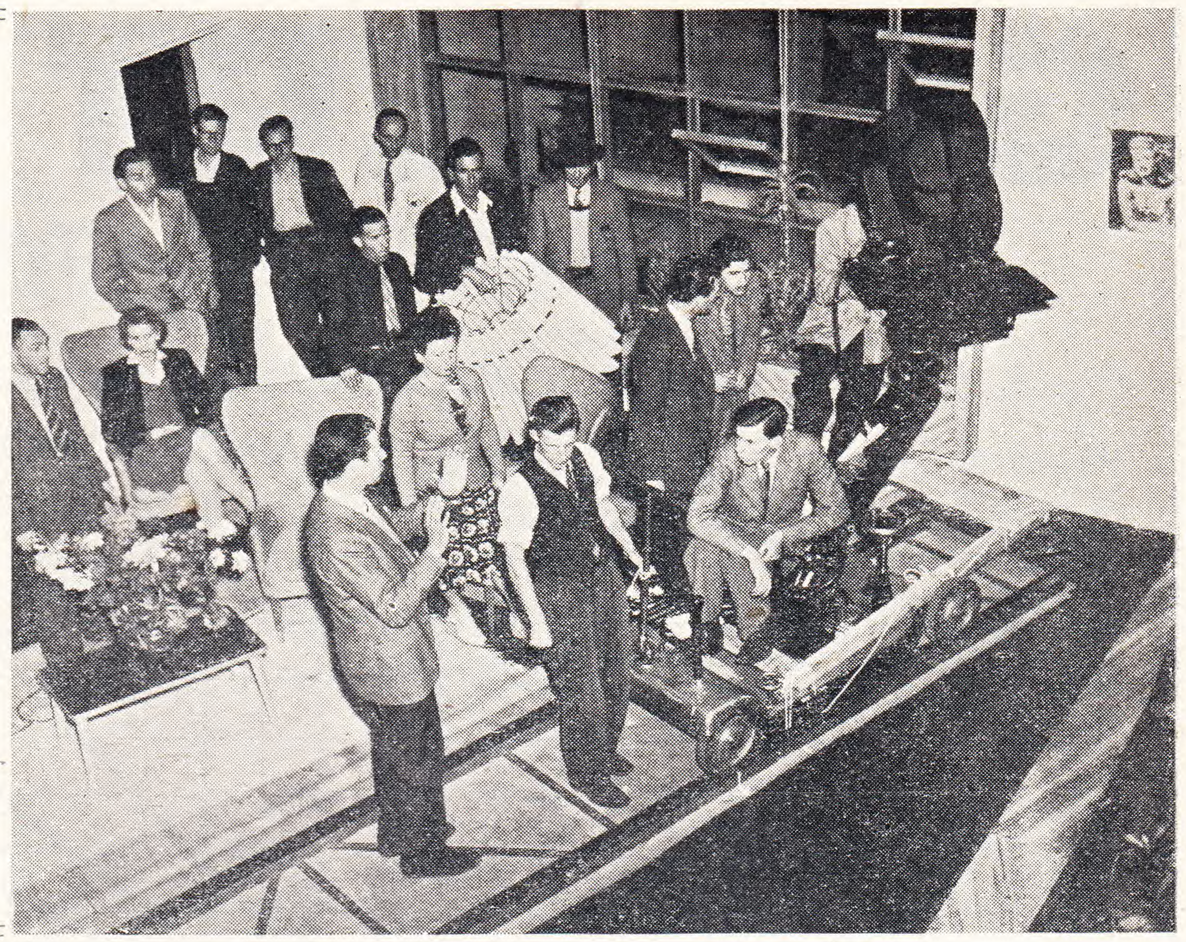
One final factor: colour. The public demands colour, but is not too exacting as to what sort of colour it gets so long as it is reasonably pleasing. I suggested in the last KINE. *Studio Supplement* that two-colour processes held considerable prospects until such time as three-colour processes became generally available.

The two-colour process will always have the advantage of economy. I am convinced that colour of a quality quite acceptable to the general public is obtainable using two colours only, and that it could be introduced into British studios without any great outlay either of cash or time. Further, two-colour processes would have the practical advantage (if æsthetic disadvantage) that a limited range of colours could be used for sets and costumes.

I am aware that in addressing these queries to the production Industry I am putting forward nothing new; practically every point I mention is a regular part of production routine in some studio or other; but I am far from convinced that all these time-saving dodges are at all widely used.

Trucking Shot

A rehearsal for a sequence in Two Cities' ONE NIGHT WITH YOU, by director Terence Young. This kind of shot, very popular in most studios to-day, is one which Howard Cricks describes as "the most costly type of shot." He wonders whether that cost is always justified



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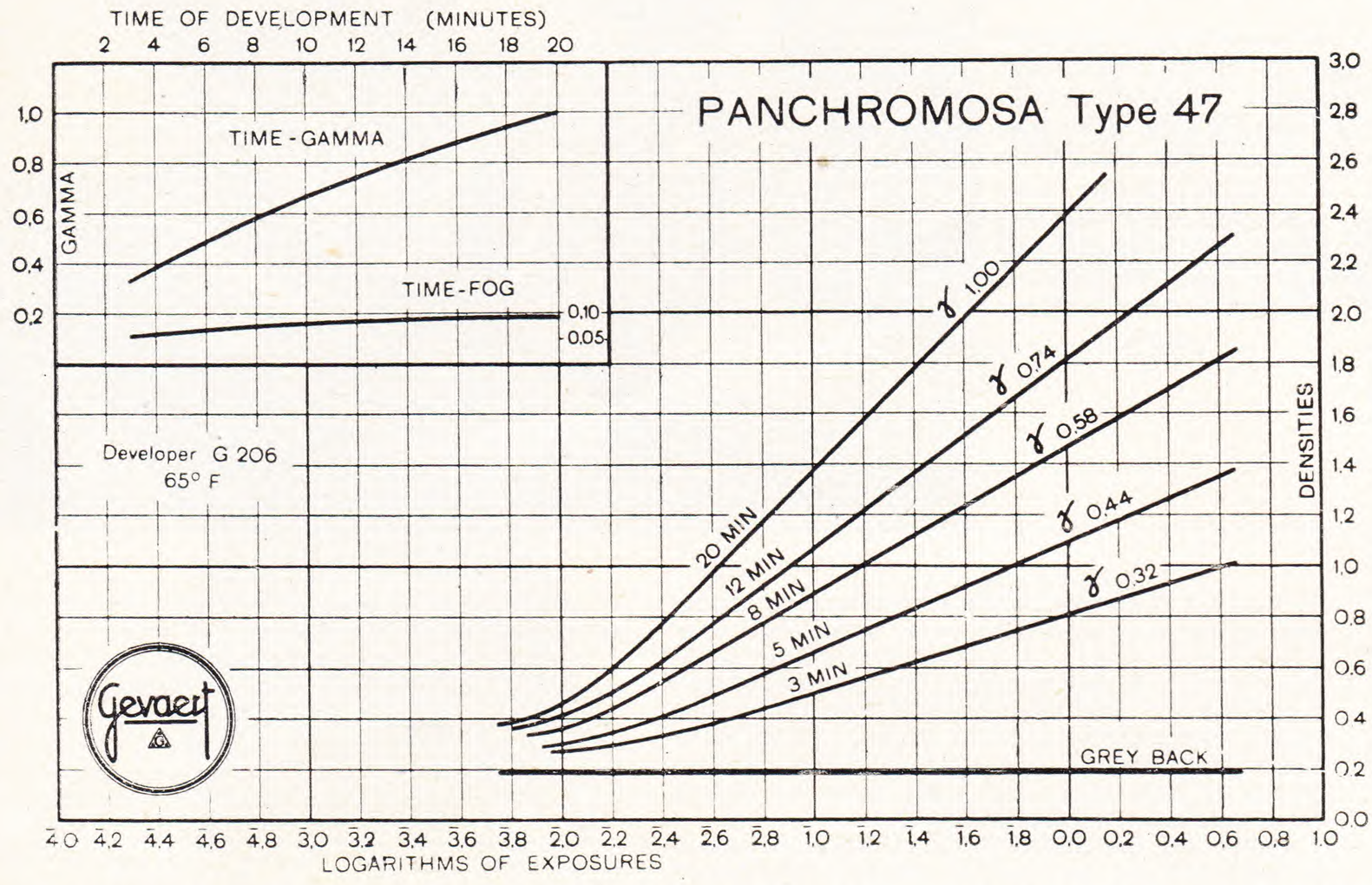

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THE OUTPUT OF SMALL STUDIOS NEED NOT BE "QUICKIES"

In this article Henry Halsted, of Marylebone Studios, in an interview with a "Kine." reporter, states the case for the small independent producer and maintains that he can produce quality with care and planning.

THE demand for more British films is an encouragement to the small independent producer; on the other hand, many responsible people in the Industry feel that the very existence of a strong demand will bring a return of the quickie, which did so much to injure the prestige of the British film business before the war.

Possibly there will be a return of the quickie, but I see no reason why a film made to a limited budget in a small studio should be a quickie in any sense but the one which indicates rapid production time. As managing director of Marylebone studios I have had very considerable experience of small productions. Some of the films which have been made in my studios have been poor: others have been very good. Almost all have been in the category contemptuously dubbed quickies

In my view, based on that experience, it is possible to make a small, moderately cheaply produced picture which is good entertainment, both as regards quality standards and box-office appeal. That is what I am trying to do now in my capacity as producer of the programme that I am making for Exclusive.

I have learned from experience that two things are vitally important to modest production in a small studio: story selection and advance planning. If your story is mediocre, whatever pains you take during production will not completely disguise the fact. That is just as true for second-feature production as for half-million dollar prestige efforts.

So, the story must be good of its type. I think, for example, we have a good one in "Dick Barton, Special Agent." It has bags of action, comedy and, above all, its great radio popularity to help to sell it.

Bearing in mind finances not in the Rank bracket, restriction of studio space in small premises and the hazards of location work, I would say that broadly speaking the ideal story for this class of production is one which demands only four or five main characters, a limited number of set changes and not a lot of location work. This, of course, in addition to good dramatic content.

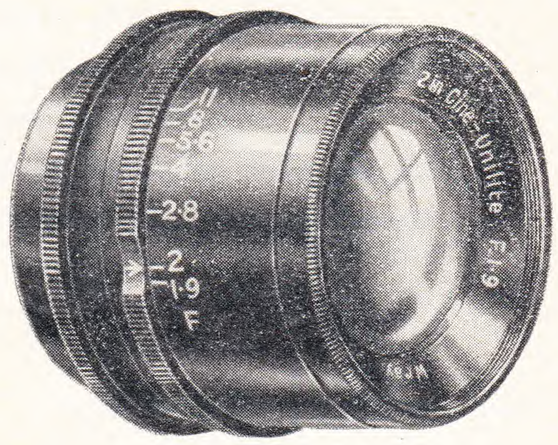
Given the right story, the next step is to plan, working out the shooting script, always with the spatial limitations of the studio in mind. If you know your studio and its resources thoroughly, if you consult your cameraman and art director constantly it is possible to produce a shooting script which will guarantee you steady and economical production.

In "Dick Barton" we know exactly how our camera set-ups will be because they have all been worked out beforehand with the plan of the stage clearly in the minds of all concerned. Similarly, we build no more of a set than is necessary to establish atmosphere. By using a little imagination and improvisation we are able to secure striking effects with little resources. Careful use of foreground objects makes a great deal of difference to the appearance of a scene. By saving on size, we are able to concentrate on quality in the essentials.

The Marylebone crew at work on a scene from DICK BARTON, SPECIAL AGENT. The director, in front of camera, is Alfred Goulding, production manager Eric Veendam and lighting cameraman Stanley Clinton

Given this careful choice of story, detailed planning and a crew such as I am happy to have working with me—an experienced and closely knit team—and there is no reason why the small film should not be a very good film. It is a mistake to shoot too quickly. We aim at about four minutes a day of screen time, and our schedule for this picture is four weeks. That is faster than the major studios' rate of production, but I think our quality will be sound.

How long small producers like myself will be able to keep going in view of the increased rates of pay for technicians and other workers, I would not like to estimate. But it does seem that if the small man is to continue to exist, the exhibitor will haye to adjust his terms.



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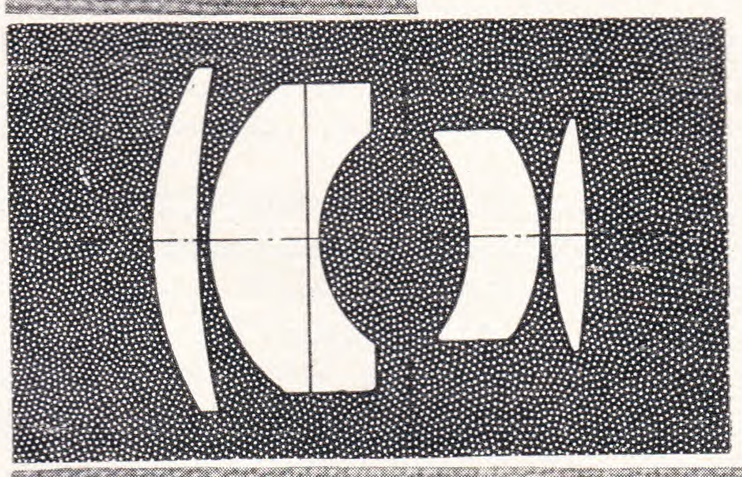

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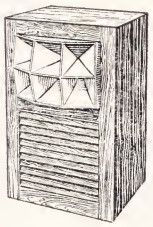

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THE STUDIO ENGINEER DOES A BACK-ROOM JOB

The studio engineer is an important person who contributes a great deal to the smooth and uninterrupted flow of production. In this interview, based on his experience at Shepperton, Charles Hillier, engineer for Sir Alexander Korda's London Films studio, gives a clear idea of the wide scope and the difficulties of the job, as well as some indication of its essential importance.

THE studio engineer could, even with modesty, call himself a back-room boy. That is a pretty accurate description in the sense that few people outside his own studio ever hear of him or his work. It is also true in the sense that, if he does his job well, he must show an ability to cope with the queerest emergencies and powers of invention beyond the normal. These qualities are more than ever necessary in these days, when more production is so desperately needed.

My job at Shepperton illustrates these aspects graphically. I have to improve the amenities of a constantly expanding studio and, at the same time, in no way interfere with production. That, in these days of shortages, restrictions and form filling, is no simple task.

I have to see that the water supply, the drains and the heating, as well as the electrical supply function efficiently. When the powers in charge decide to put up a new building—say, our workers' new canteen—I have to ensure that it is properly serviced. Just one of the problems involved is providing adequate drainage. This means a great deal of digging and opening up of roadways which, however, must still be maintained in such a condition that traffic can continue to use them.

The main drains, with which all these new drains must connect up, have several times had to be excavated and enlarged—for originally they were designed to service a very much smaller property. Drains are an unromantic subject, and possibly the last thing the layman would expect a man in the film Industry to be concerned about. But a large portion of my working life is harassed by them and, I suppose, will continue to be so haunted until the ideal Shepperton studios have emerged from the drawing board into solid facts.

Preparing for Winter

Digging up roadways for this purpose and also for the laying of electric lines and water pipes is another permanent headache. Whenever this is necessary—and many wisecracks circulate about the studio as to the frequency of the necessity—we have to consider lines of communication first, and plan so that the traffic of the studio can continue unimpeded.

All this kind of work is simple enough in essence, but is complicated by the basic requirement that it must hamper production as little as possible.

Perhaps the biggest problem handed to us this summer has been to prepare for the winter in the matters of heating and power supplies. Officials who have instructed us to store fuel have sometimes overlooked the fact that large quantities of furnace coke, even if obtainable, require a great deal of storage space. But we have done our best, and visitors who now come upon coke dumps in the most unexpected places must not assume that they have been placed haphazardly. Usually, they are located as near as possible to a boiler-house in a spot where movement of vehicles will be least affected.

Conservation of heat during the summer has been quite a problem. It has been necessary in order to build up supplies of fuel against the winter. At Shepperton we have economised in the use of hot water by constructive methods. For instance, the make-up and dressing-rooms have been supplied from a tank specially erected on the roof nearby and heated by a small power unit. This device has enabled us to give hot water to those who really need it without keeping a large boiler running for the purpose.

Every studio engineer must have been faced by similar problems during this summer, not only as regards heat, but also in the matter of power. At Shepperton we are putting in a new power-house, and the equipment of this has been quite a headache. The stock phrase, "scouring the country," takes on a fresh vitality when it comes to finding serviceable electrical gear and machines.

Ex-Government stock provides an obvious source of supply, but it is not always easy to obtain what you want, even when you have located it. We had one tantalising experience when we had discovered a generator in a Government dump, but could not take it away for want of the official "papers" and lists of serial numbers. It was only through enterprising action on the part of my agent that we eventually secured the plant, even though we had sent a special truck and crew to fetch it.

I am now building up a stock of the electrical apparatus and workshop machinery that we require as a result of these exhaustive searches and rapid pounces to forestall other parties interested in similar apparatus. But most of it has to be overhauled and to some extent reconditioned by our own technicians before it can be used.

Quite a considerable amount of inspired adaptation takes place when we cannot obtain exactly what we want. We were recently in need of some oil-storage tanks, and there was nothing of the kind to be had at economic prices just then. However, we managed to obtain some large buoyancy tanks, surplus from invasion equipment, and these, fitted with suitable cocks, have been lined up as a battery of excellent substitutes.

I suppose that we get more of this sort of thing at Shepperton than most other studios experience because we are developing our resources, and most of the studios are more or less established units.

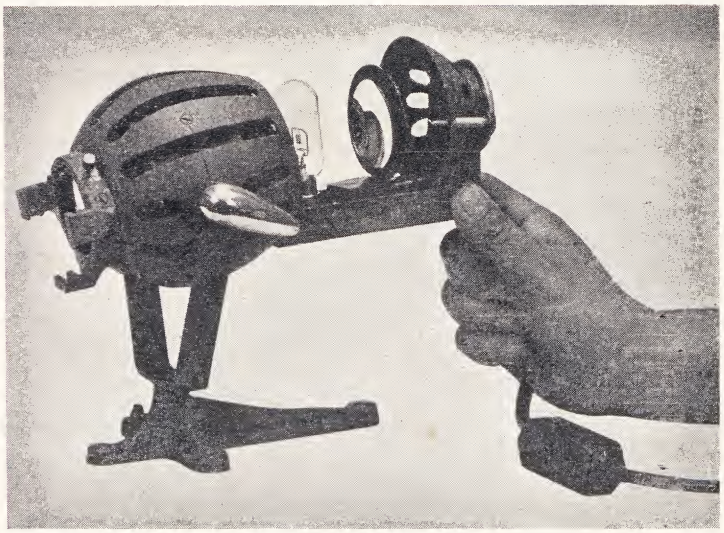
The difficulty of the job lies in the fact that even as it was originally conceived, Shepperton was not adequately serviced; and, therefore, my job is complicated by having to renew and enlarge original services as well as expand them.

Our power-house is a case in point. It is inadequate for the heavy demands which are placed upon it, and the completion of the new one is a priority job for us. When it is finished it will make us independent of outside supplies; in the meantime, the maintenance of the old one has been an arduous business.

I have said enough, I think, to indicate that the studio engineer and his men can be regarded as key workers in the job of providing the basic means of efficient production and ensuring that, whatever the emergency, the vital business of picture-making goes on with as little interruption as possible. We are modestly proud of our achievements at Shepperton, where we have coaxed efficiency, not without difficulty, out of inadequate and neglected services.

Another by Hewitt

This picture shows a new production the Hewitt Universal Junior 100 Streamline Projector Lamp. The back portion is removable, carrying with it the whole of the mechanism and the bulb. The switch is on the cable. The optical system is a plano convex lens, with a spherical mirror. Weight, including 25 ft. of cable and stand, is only 4 lbs



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One result of the development enterprise is seen in the picture above. Evidence of the export business is to be found in the news that the firm has just dispatched a shipment of 240 items, including lamps of all kinds, for G.B.I., Africa.

This equipment will be used in the production of films similar to those sponsored by G.B.I. in this country. The large number of items in the shipment indicates the rising volume of output which British manufacturers are achieving in spite of the many difficulties which beset them.

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At Denham

HAMLET (Two Cities).—A full production unit list appeared in the KINE. of July 10.

ONE NIGHT WITH YOU (Two Cities).—A full production unit list appeared in the KINE. of July 10.

ESCAPE (20th Fox).—A full unit list will appear as soon as available.

At Ealing

SARABAND FOR DEAD LOVERS (Ealing)

Director, Basil Dearden; associate producer, Michael Relph; art director, Jim Morahan; unit production manager, Ralph D. Hogg; first assistant, Stanley Irving; adv. production assistant, N. Priggen; second assistant (location), John Meadows; continuity, Phyllis Crocker; lighting cameraman, Douglas Slocombe; camera operator, Jeff Seaholme; camera focus, I. Craig; loading and clappers, H. Salisbury; stills, R. Gough; accounts, Mrs. Deakin; wardrobe mistress, Mrs. Crutchley; wardrobe assistant, Mrs. Minell; wardrobe master, B. Foster; wardrobe assistant, L. Hubbard; hairdresser, D. Hart; make-up, H. Frampton; props (1), H. Phipps; props (2), R. Beaven; props (3), R. Weymouth; painter, J. Porter; electrician (charge hand), E. Chapman; electrician, H. Sadler; stand-by carpenter, F. Hook; rigger (camera), E. Lockhart; stage hand, K. Edwards.

AGAINST THE WIND (Ealing).—A full production unit list appeared in the KINE. of April 24.

SCOTT OF THE ANTARCTIC (Ealing).—A location production unit list appeared in the KINE. of July 10.

At Elstree

IDOL OF PARIS (Premier) at M-G-M Studios

Executive producer, Maurice Ostrer; producer, R. J. Minney; director, Leslie Arliss; associate producer, Albert Fennell; production manager, Bert Ostrer; P.A. to director, Tom Connochie; lighting, Jack Cox; art director, Albert Jullion; editor, Bert Bates; costume designer, Honoria Plesch; assistant costume designer, J. Wilson; wardrobe supervisor, Jane Ironside; costumiers, M. Berman, Ltd.; hairdressing, Pat Pearce; make-up, Guy Pearce; casting director, Miss I. Head; publicity, Bill Luckwell.

Stills, Dave Boulton; recordist, A. S. Fisher; assistant director, Tom Payne; second assistant director, Albert Beckett; third assistant director, Denis Berters; camera operator, Skeets Kelly; focus, Chris Doll; numbers, Stan Evans; loading, Chris Holden; continuity, Angela Martelli; assistant continuity, Maureen Whitty; sound camera, Michael Hickey.

MY BROTHER JONATHAN (A.B.P.C.).—A full unit production list appeared in the KINE. of July 10.

SO DIED A RAT (British National) at British National Studios.

Executive producer, L. H. Jackson; director, Paul Stein; production manager, Fred A. Swann; first assistant director, Leigh Aman; second assistant directors, David Orton and Douglas Tweedy; third assistant director, Bill Brendon; continuity, Joan Davis; assistant continuity, Pamela Gayler; art director, C. Wilfred Arnold; assistant art director, Geoffrey Somerton; scenic artists, Gilbert Wood and Olga Lehmann; research, Miss B. M. Wilkin; director of photography, James Wilson; camera operator, Moray Grant; focus operator, Jack Mills; clappers, C. Davies; loader, Johnny Bond; recording director, Harold V. King; sound recordist, G. Adams; sound cameraman, Cyril Brown; boom operator, Eric Bayman; boom assistant, Derek Swynnerton; still photographer, Frank Buckingham; assistant still photographer, Charles Reed; wardrobe supervisor, Mrs. Tweedy; make-up artist, Henry Hayward; make-up assistant, Dave Aylott; hairdresser, A. G. Scott; assistant hairdresser, Ann Williams; director of music, Hans May; assistant director of music, Wilfred Burns; buyer, Dudley May; assistant buyer, A. Wisbey; master carpenter, Arthur Searle; master painter, Reg. Wildman; master plasterer, B. Moodnick; chief electrician, Tom Sullivan; property master, Frank Davies; charge hand electrician, Alec Hawes; set dresser, Bill Osborne; floor props, J. Tyrell; grips, A. Brand.

At Islington

MIRANDA (Gainsborough).—A full production unit list appeared in the KINE. of July 10.

At Pinewood

ESTHER WATERS (Wessex)

C. Pennington-Richards and H. E. Fowle, lighting cameramen; Michael Gordon, supervising editor; Raymond Anzarut, production manager; Phil Shipway, first assistant director; Charles Knott, sound mixer; Max Rosher, still cameraman; George Mills, assistant to producers; Spencer Kendal, assistant production manager; Peter Blom, second assistant director; Ronny Stark, third assistant director; G. Massy-Collier, camera operator; H. Slagter, focus puller; R. S. Robinson, clappers; Jack Locke, boom operator; H. Raynham, sound camera operator; C. Jones, sound maintenance engineer; Pauline Roberts, continuity; Constance Willis, assistant continuity; John Krish, editor; Peter Seaborne, first assistant cutter; Pamela Heinz, second assistant cutter; Fred Pusey, art director; John Harman, assistant art director; Denys Pavitt, set decorator; Charlie Cussack, construction manager; Geoffrey Drake, draughtsman; Beryl Neville-Stack, costume superviser; Alix Stone, costume designer; Dorothy Edwards, wardrobe supervisor (ladies); Kathleen Moore, wardrobe mistress (ladies); John McCorry, wardrobe (gents.); Harry Rossdale, wardrobe (gents.); Chris Chapman, property buyer; John Wilcox, Jim Hydes, make-up; Jean Carr, Bill Griffiths, hairdressing; Jock Sang, electrical foreman; Joy Raymond, publicity director; L. Wilkie, chief publicity assistant.

OLIVER TWIST (Cineguild).—A full production unit list appeared in the KINE. of July 10.

THE RED SHOES (Archers).—A full production unit list appeared in the KINE. of July 10.

At Riverside

THIS WAS A WOMAN (Excelsior).—Producer, Marcel Hellman; director, Tim Whelan; dialogue, Wallace Douglas; musical director, Mischa Spoliansky; art director, Andrew Mazzei; chief draughtsman, Tom Goswell; still photographer, C. Stanbrough; production manager, Pat Kelly; casting director, Nora Roberts; 1st asst. director, Stanley Couzins; 2nd asst. director, Clive Midwinter; property buyer, Jim Baker; master carpenter, Peter Dukelow; master plasterer, Bill Knapman; master painter, R. Eversfield; property master, J. Bigg; floor props, G. Dye; chief floor electrician, F. Jenkins; chief projectionist, G. Underwood; wardrobe supervisor, Dorothy Sinclair; wardrobe mistress, A. Binney; chief make-up, Nell Taylor; lighting, Gunther Krampf; camera operator, Hal Britten; focus operator, Gerry Turpin; publicity chief, Sally Sutherland; continuity, Peggy Singer; editor, E. B. Jarvis; sound supervisor, G. Burgess; sound mixer, H. C. Pearson; boom operator, F. A. Tomlin; sound camera, Gordon Hay; costume designer, Anna Duse; personal assistant to director, Tony Kelly; chief accountant, R. Gale.

At Shepherd's Bush

THE CALENDAR (Gainsborough)

Executive producer, Sydney Box; director, Arthur Crabtree; production controller, Arthur Alcott; production manager, Douglas Peirce; cameraman, Reg Wyer; supervising art director, George Provis; art director, John Elphick; wardrobe supervisor, J. Harris; supervising editor, Alfred Roome; cutter, J. Barker; make-up, W. T. Partleton; stills, A. Chapman; recordist, A. Rhind; first assistant director, Basil Keyes; second assistant director, D. Rose; third assistant director, E. Braun; camera operator, Len Harris; first assistant camera operator, J. Harris; second assistant camera operator, P. Young; continuity, P. Pearson; assistant continuity, Margaret Taylor; hairdressing, Nina Brue; wardrobe mistress, Dolly Smith; wardrobe master, Bill Neale; loading, W. Law; sound camera, L. Abbott; boom operator, Charlie Wheeler; assistant boom operator, R. Frampton; property master, Arthur Rumsey; floor electrician, F. Elkins; publicity director, Tom Burdon; stills and publicity features, Leslie Frewin; floor representative, Arthur Allighan.

EASY MONEY (Gainsborough).—A full unit list will appear as soon as it is available.

THE BAD LORD BYRON (Gainsborough).—A full production unit list will appear as soon as it is available.

At Shepperton

ANNA KARENINA (London).—A full production unit list appeared in the KINE. of July 10.

BONNIE PRINCE CHARLIE (also at Worton Hall).—A full production unit list will appear in the near future.

LOST ILLUSIONS (London).—A full production unit list will appear in the near future.

At Southall

JUST WILLIAM'S LUCK (Alliance)

Producer, James A. Carter; associate producer, John Sloan; director, Val Guest; production manager, T. S. Lyndon-Haynes; assistant production manager, James Shingfield; production secretary, Myra Osborn; first assistant director, George Fowler; second assistant director, Geoffrey Haine; director of photography, Leslie Rowson; camera operator, Ken Talbot; focus operator, John Winbolt; loader, Michael Reed; art supervisor, Andrew Mazzei; art director, Harry Moore; recording supervisor, George Burgess; hairdresser, Miss Sheardon; make-up supervisor, Nell Taylor; make-up artist, George Turner; still photographer, Dick Cantouris; assistant still photographer, Puck Bishop; casting director, Nora Roberts; wardrobe supervisor, Dorothy Sinclair; wardrobe mistress, Olive Swinney; wardrobe assistant, Marjorie Brown; editor, Ann Barker; continuity, Marjorie Owens; studio publicity, Evelyn Barrie.

At Twickenham

THE BRASS MONKEY (Alliance)

Executive producer, James A. Carter; producer, N. A. Bronsten; associate producer, John R. Sloan; director, Thornton Freeland; dialogue director, Denis Freeman; production manager, Laurie Lawrence; production assistant, M. T. Whiting; production secretary, Molly Borlase; assistant director, Leon Bijou; second assistant director, Eric Pavitt; third assistant director, Alan Williams; location manager, T. M. Parry-Davies; assistant location manager, Sulvia Milson; director of photography, Basil Emmott; camera operator, Bert Mason; focus operator, Gerry Fisher; loader, Graham Arlen; art supervisor, Andrew Mazzei; art director, Walter A. Scott; recording supervisor, George Burgess; hairdresser, Doris Cummins; make-up supervisor, Nell Taylor; make-up artist, Kenneth McKay; assistant make-up artist, F. Williamson; still photographer, Harold Hanscombe; casting director, Nora Roberts; supervising editor, Eily Boland; editor, David Hawkins; first assistant cutter, Ken Bilton; second assistant cutter, J. Barnicoat; wardrobe supervisor, Dorothy Sinclair; wardrobe mistress, Ellen Trustler; wardrobe assistant, E. Adamson; continuity, Rene Galler; assistant continuity, Ann Leonard; buyer, Jim Day; studio publicity, Evelyn Barrie.

NO ORCHIDS FOR MISS BLANDISH (Alliance).—A full production unit list appeared in the KINE. of July 10.

At Walton-on-Thames

THE FIRST GENTLEMAN (Columbia British)

Director, Cavalcanti, assistant producer, Ivan Lassgallner; production manager, Ray Pitt; assistant production manager, Terry Price; assistant director, Frank Hollands; second assistant director, Harold Buck; third assistant director, Clifford Price; unit manager, James Mahoney; art director, C. P. Norman; assistant art director, Lawrence Broadhouse; set dresser, Philip Stockford; costume designer, Elizabeth Haffenden; assistant designer, Doris Lee; period adviser, Eric Capon; wardrobe master, Goff Price; first assistant wardrobe, Harry Jordan; assistant wardrobe, Mrs. Goff Price; wardrobe mistress, Molly Arbuthnot; assistant wardrobe, James Jordan; continuity, Daphne Heathcote; assistant continuity, Kate Parker; production secretary, Joan Clark; editor, Marjorie Saunders; cutter, Mrs. C. Hone; assistant cutter, Pam Chapman; director of photography, Jack Hildyard; camera operator, Arthur Grant; clappers, E. Williams; loading, I. Morris; sound unit cameraman, Cedric Williams; second unit camera operator, Rettlewell; second unit camera assistant, Tony White; chief make-up artist, George Claff; first assistant make-up, George Partleton; second assistant make-up, Phil Leakey; joint chief hairdressers, Frank and Betty Cross; first assistant hairdresser, Monica Hustler; second assistant hairdresser, Gordon Bond; runner, Geoffrey Helman; sound engineer, Fred Turtle; records and sound fixer, T. Meyers boom operator, J. Davies; sound camera maintenance, Ron Ford; focus puller, Ken Hodges; sound maintenance, Cliff Sandall; stills supervisor, R. Joyner; stills cameraman, Harold Saunders; second stills cameraman, George Catley.

At Welwyn

BOND STREET (World Screenplays)

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A LITTLE STUDIO DOING A BIG JOB

Highbury the Testing Ground

HIGHBURY is unique among the British film studios, and as it receives less public attention than any other, the KINE. considers it a good subject for an end of the year survey.

Highbury stands unashamedly for the B picture, or, as it has been officially designated, the "Curtain Raiser." It is designed both as a forcing ground and the programme parade of the vast Rank Organisation.

Where other studios are not too anxious to admit that they make B films, Highbury, whose produce is only now starting to roll in, is altogether devoted to the second feature. At the same time it is designed as a place where the directorial, writing and star talent of the future will be produced. Its dual theme gives it double importance. Here in these pages is a short survey of Highbury as Rank technicians see it.

The Problems of Making Class "B" Pictures *by JOHN CROYDON*

THE Highbury Studios have often been described as a training ground for future stars, creative production personnel and technicians. I cannot emphasise too strongly that this is a complete misconception of the facts.

Our job at Highbury is to make "B" class pictures—the second feature, the "curtain raiser." The economics of this type of production demand tight schedules and speed of work. Therefore we cannot afford to make the mistakes which are inevitably made by those undergoing training, nor can we spare the time needed for intensive instruction.

No, the Highbury Studios can be rightly regarded as a testing ground.

There are a number of people in film production, who by their ability, proven through experience and sheer hard work, are considered to be ready for promotion. They are the people whom production executives of other studios have their eye on for a major production rôle.

The "B" picture is the obvious medium through which they can prove their mettle, find out if they have the ability and are temperamentally suited to the exacting demands of major production.

The Highbury studio gives them the opportunity to justify the confidence which the production executives have in their work.

Personnel is selected from within the organisation on the recommendations of production managers; others come from companies associated with the organisation such as G.B. Instructional and G.B. Screen Services.

So far as technicians are concerned, it is possible within a few days of starting production to assess their ability. If they do not make the grade, then they are speedily removed.

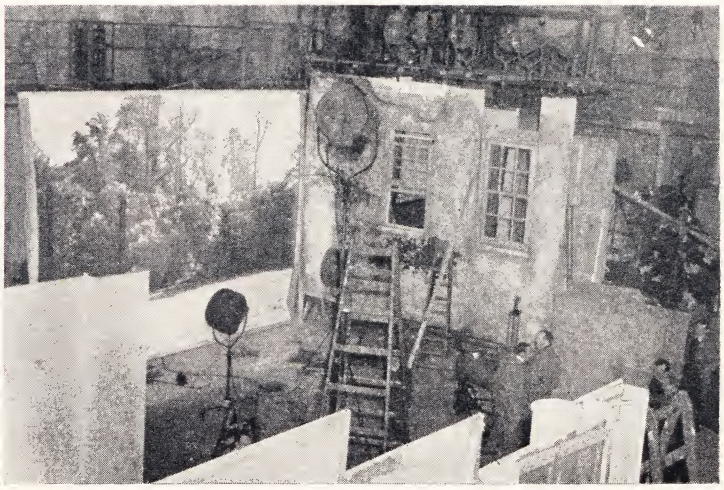
With directors it is an entirely different matter. You cannot teach a director his job. In my opinion he must have the ability to handle actors and to inject speed and tempo into the production and be able to interpret the mood of the subject. These are factors which are difficult to assess until the director has completed the first rough-cut of his picture.

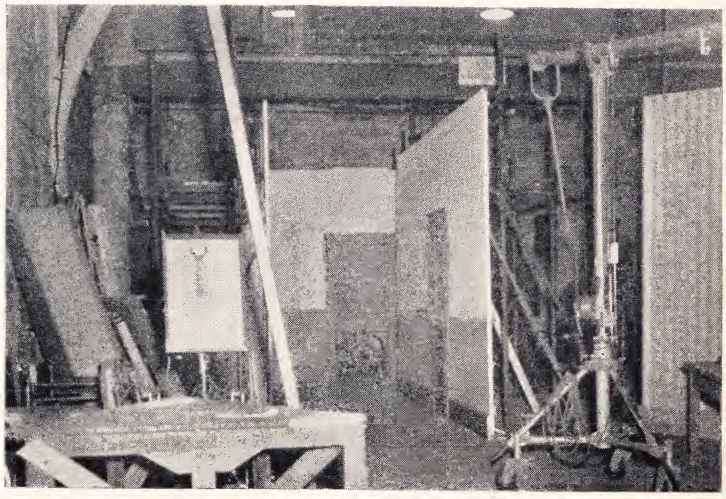
In the choice of directors it is quite obvious that we cannot afford to take risks. Here, again, then, the selection of directors must of necessity be made from the ranks of those who have proven their capabilities in long experience of production.

Apart from film studios, directors are recruited from television, because the technique is so closely related to that of film production, and from the ranks of stage producers. To those aspiring to the director's chair, I would like to offer a word of advice. They would be wise to seek experience of stage production, for it is in this sphere, perhaps more than in any other, that they will get used to the handling of actors and actresses.

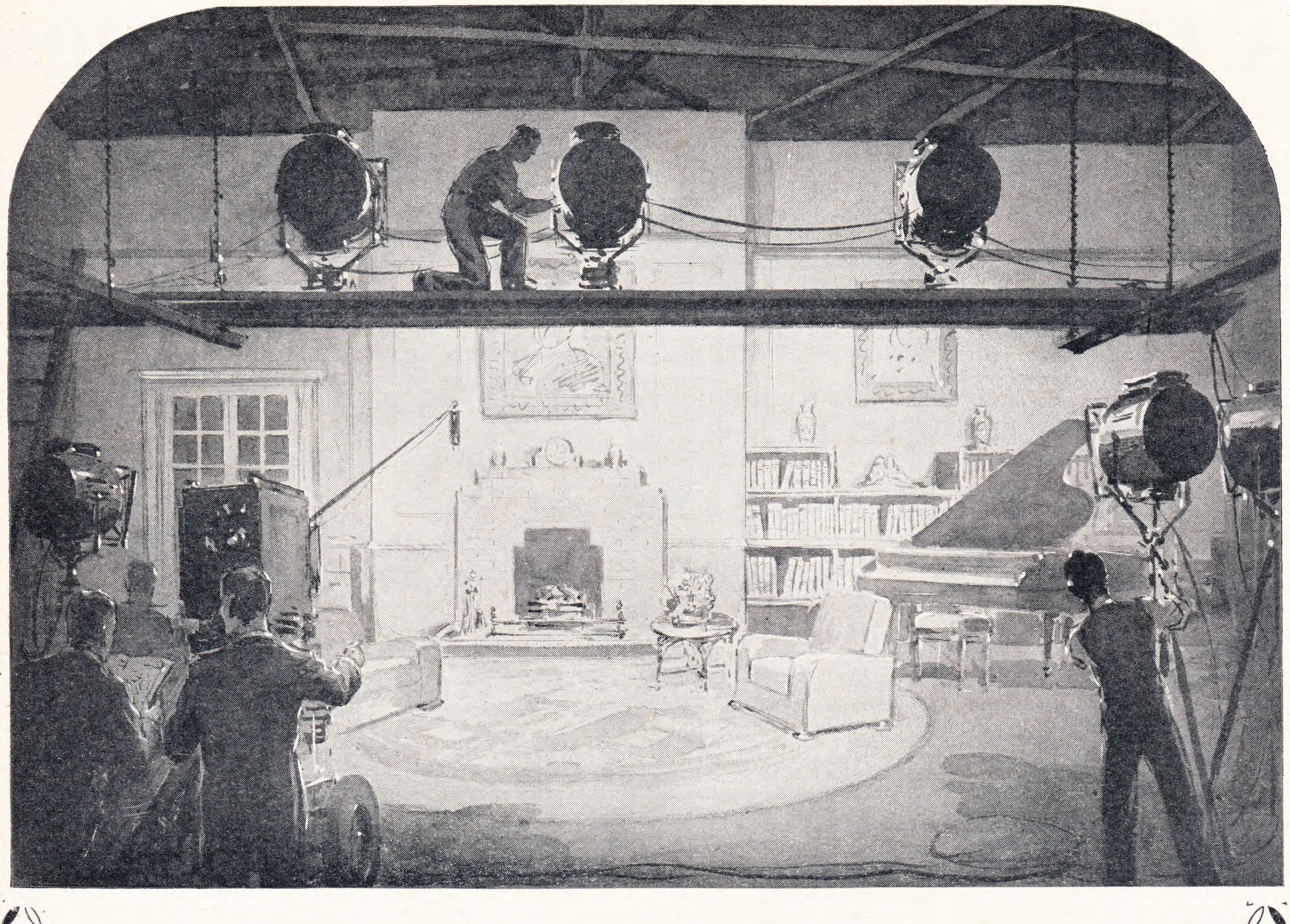
Story material is selected from first-class short stories which can be expanded to feature length without losing their appeal and from original film stories from trainee-writers. At present I have a team of four writers, and I spend

Continued on page 74





Views of the Highbury Studios : two stages ; the main one measuring 98 ft. by 51 ft. and the other upstairs 54 ft. by 27 ft.



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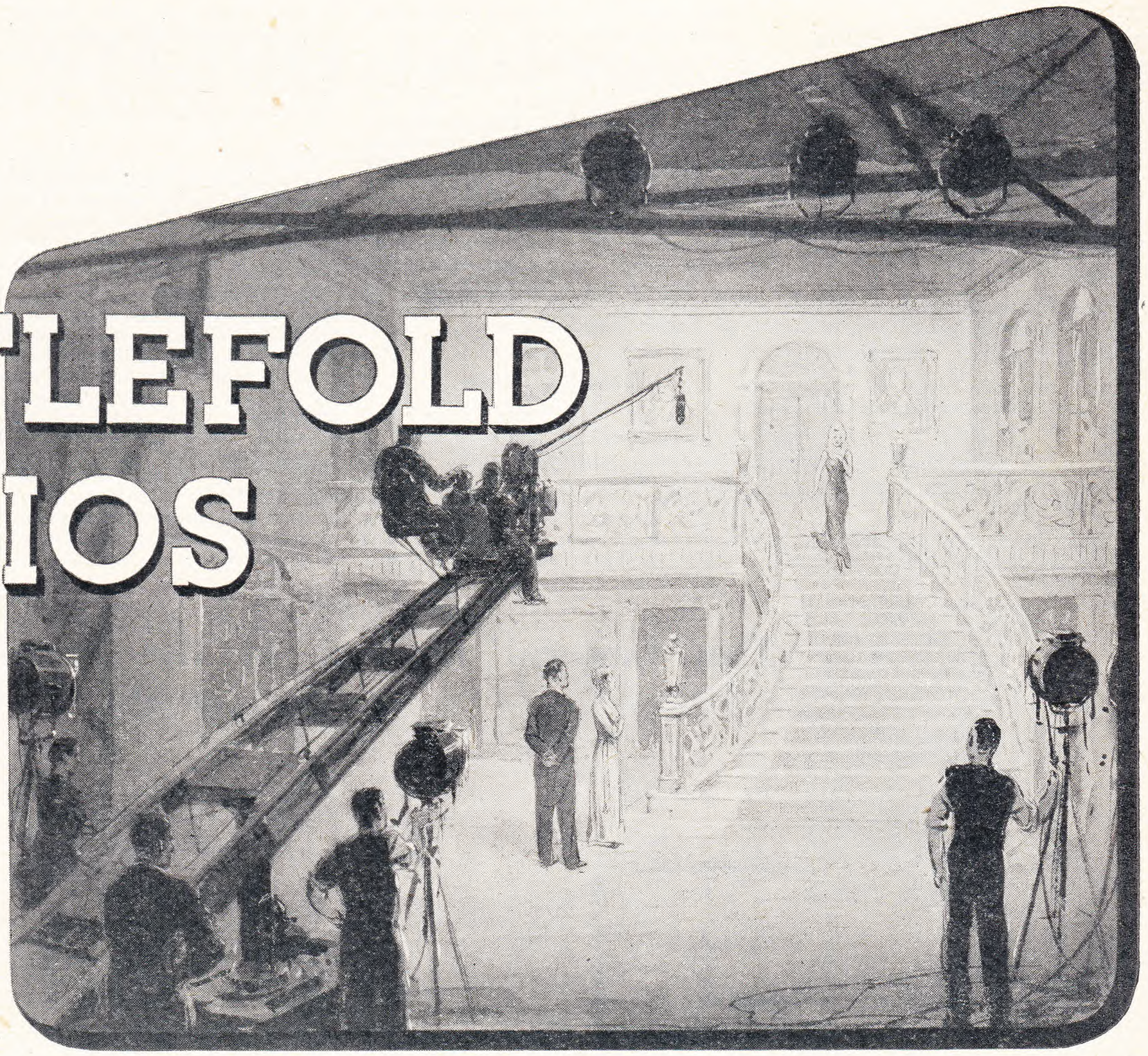

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HIGHBURY THE TESTING GROUND

a good deal of my time working with them to keep them right on screen technique, from the original story treatment to the shooting breakdown of the script prepared in conjunction with the director.

The breaking-down of scripts to the smallest detail is of paramount importance, not only because it is necessary to the speed of production, but because it allows a greater understanding of the problem to be faced by all those engaged in the production. Once the final breakdown is decided upon, no deviation from the script is permitted.

Here are a few examples of the story material chosen for production, and the reasons why they were selected.

"Colonel Bogey," a short story by John Baynes, provides two good parts for youngsters. "To the Public Danger," by Patrick Hamilton, is a first-class story providing an acting exercise for three young contract artists. "Penny and the Pownall Case" is an original story by trainee-writer F. E. C. Fairchild. The story is considered to be good, and it provides rôles for all the male members and two of the girls from the "Company of Youth" training school.

£20,000 Costs

Another is "Song for Tomorrow," written again by F. E. C. Fairchild, specially built round Evelyn Dale, a young singer on contract to the Rank Organisation.

The average cost of production is in the region of £20,000. The main problem here is that only 25 per cent. of this budget is permitted for creative effort, which includes costs of story and script, producer, director, players, set materials and props, wardrobe, composer and musicians.

The style of the production must, therefore, be simple, and I have to make up my mind where to spend the major part of the money for creative effort.

The restricted budget gives rise to casting problems. Each picture must give at least one member of the school a chance to show his or her paces, but in the main I try to use as many actors and actresses from the school as possible, for it gives them a fine opportunity to gain practical experience. There are also the Organisation's contract artists to draw upon, and we have been able to attract a number of others from outside sources; but as far as possible I try not to use more than four people in the major cast.

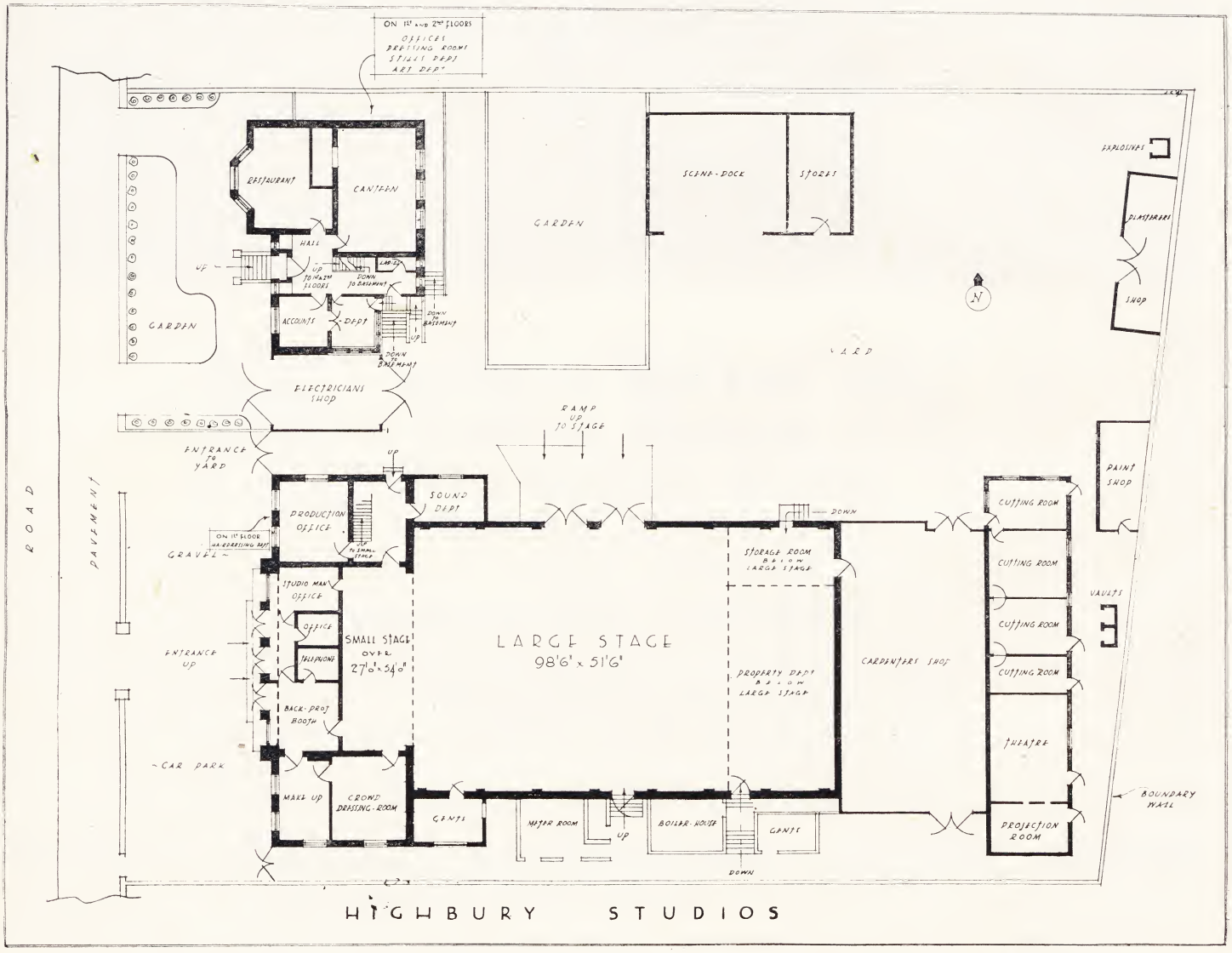
The restricted studio space and shortage of equipment are problems, but I do not regard these as a drawback to production, but rather as a stimulant to the exercising of considerable ingenuity in devising ways and means of overcoming the shortcomings.

The Best Possible

It becomes necessary for those engaged in the production to try to achieve the appearance of big things in a confined space and with little money to spend. It is essential to look at every problem, to find out how to get the best production value with the resources available.

I am convinced that this is all very good experience and does much to stimulate effort in the making of good pictures.

The General Lay-out of the Building



A LITTLE STUDIO DOING A BIG JOB

The Training of Technicians

A FULL-TIME JOB IN MAKING FILMS

by ADRIAN WORKER

THERE is a wide-spread rumour that Highbury Studios have been re-opened during the past year as a training ground for new entrants to the film industry. The result is that we are swamped with applications for jobs from young men—and women—whose only qualification seems to be that they think they could do well in the film industry. Most of them seem to have read somewhere that there is big money to be earned. One applicant pleaded for a job as a third assistant, but could not accept less than £10 per week as he had "certain commitments."

In fact the technicians at Highbury have mostly had previous experience. They are young people who have demonstrated their ability in their chosen sphere and deserved a chance of promotion. Highbury Studios are giving them that chance.

Severely Practical

The training at Highbury is not theoretical—it is severely practical, for we believe that the only way to learn a job is to do it oneself. There are no lectures or discussions. Everyone in the unit has a full-time job of making pictures, and, while himself gaining valuable experience, contributes his full share to the British production drive.

Soon after starting production in July it became necessary to have one or two experienced technicians in the studio. Our aim was to make ten forty-five minute, good quality, entertainment films by the end of the first year. This meant a five-day week schedule for each production. Experience on the first film showed that, with the advent of the forty-four hour week in September, we could not afford to have technicians in charge of departments who were learning their jobs.

In the responsible positions, therefore, we put such experts as Jimmy Harvey and Roy Fogwell, lighting-cameramen who have been in the business for years. In addition to doing their job expertly and quickly,they were able to offer words of wisdom to their camera crews, which a less experienced lighting man might not have found time to do.

Two Staff Posers

There are two questions which I am frequently asked about Highbury. The first usually comes from the staff, when I ask for more speed on the floor.

"How do you expect us to learn the job, and at the same time demand your usual seven to eight set-ups a day?"

The second question is usually from outside the studio.

"Isn't it an expensive way to teach people? Letting them do the job while they are still learning?"

The second question is easily answered on the basis of our first six months' work. The number of re-takes has been less than 1 per cent. of our total number of set-ups on the first four pictures. The first question is not so easy to answer, but the plain fact is that working under conditions of full production is the best way to learn.

The whole unit knows that we have a limited budget, and a strict schedule, and that a certain average amount of screen time must be obtained each day. They also know that their future may depend on the quality of work they produce. As a result, each member does his best to obtain the highest quality commensurate with the time and resources available.

A Helping Hand

What I have said so far may give the false impression that the staff are more or less "left to get on with it." In fact, our executive producer, John Croydon, is advising and helping all departments at all times. I would go so far as to say that only through making use of all his knowledge of production have we been able to progress so satisfactorily. In addition, my own office has an "ever-open" door, so that if anyone, from the director to the clapper boy, needs any assistance or advice, or a decision of any sort, they can walk straight in and be sure of all the help that lies in my power.

The system we intend to follow at Highbury in the future is that all newcomers must start at the bottom of their department and work their way to the top as and when vacancies occur. We aim to provide for the major studios all grades, such as wardrobe designers, writers, editors, directors, hairdressers, assistant directors, sound recordists, etc. We will see that each technician receives a good groundwork on feature production, so that the major studios do not have to entrust their high-budget films to a complete "dark horse." We have already made a good start. Gordon Lang, who lit "Colonel Bogey," is already back at the Bush lighting "The Bad Lord Byron." We have several others—in various departments—waiting to follow him.

We all feel at Highbury that the experiment has been a success. To have completed four films, and started a fifth, in the six months July to December is no small feat, especially when you remember that we are at the same time training our technicians.

Camera Work in a Limited Area

CLOSE LIAISON AND PRE-PLANNING

by JIM HARVEY

THE chief lighting-cameraman at Highbury Studios is confronted with a multitude of problems and difficulties which never arise in the larger studios. He experiences again some of the troubles of the early film-makers, when studios were not built on their present lavish scale, and the cameraman had to make do with a barn or hall or some other convenient building, adapted for his use.

The obvious difficulty is the lack of space. It is so easy for the script writer to put the letters L.S. before a scene, and in a large studio a long shot presents no particular difficulties. But at a studio the size of Highbury a long shot may cause infinite trouble. Of course, it necessitates very close liaison and pre-planning with the art department, for, unless the set is built in the correct position it may be impossible for the camera to be placed sufficiently far away to take a long shot. As it is, in spite of the wholehearted co-operation of the art department, the cameraman often finds himself with his back to the studio wall. With a feeling closely akin to claustrophobia, he longs for just a few inches more elbow-room.

Lighting Handicap

Restricted space also has considerable disadvantages from the point of view of lighting. Every lighting-cameraman has his own ideas of how a particular shot should be lit, and it is disappointing to find that lack of space prevents them from being put into effect. On every shot it is necessary to compromise between the ideal and the strictly practical—between what the cameraman wants and what the facilities of the studio will allow.

Being a small studio working to a very restricted budget, Highbury has not the technical equipment which the lighting-cameraman is accustomed to find in larger studios. The lighting equipment which is installed is perfectly adequate for general working, but naturally it is not so varied and abundant as it is, for example, at Denham, Pinewood or Shepherd's Bush.

In one way this is a disadvantage, but I think it has its compensating qualities. It means that the cameraman has to exercise his ingenuity to the full, and to be able to compromise and improvise with ease and ability. Before he can do this he must have a fund of experience and knowledge behind him. It is no good allowing a novice to experiment under such conditions. Too much valuable time would be wasted. And so the policy at Highbury is to have an experienced lighting-cameraman, who will be able to work quickly and surely, and at the same time to improvise where necessary to make up for lack of proper facilities. Following his example and learning from his experience, the rest of the camera crew have their chance to learn. It is easier to learn quickly in a small studio, producing many different films rapidly, particularly when ingenuity is required to supplement skill.

The Time Factor

The time factor is another difficulty. The object is to make a picture every five weeks. That entails a swift schedule and strict adherence to it. The lighting-cameraman must be absolutely certain of what he can and cannot do with the resources at his disposal. He must know exactly how much light he can obtain from each lamp in his equipment.

The lighting for each shot must be arranged in the minimum possible time to avoid any hold-up in the schedule, and it must be right first time. There is no time for re-takes in a small studio with two stages, producing the quality of film we are making at Highbury in a five-week schedule. This is another potent reason for an experienced lighting-cameraman.

Life at Highbury becomes especially hectic when the start of a new production overlaps the finish of the previous one. This frequently happens, even if it is only a test for the new production, and it presents difficulties to the lighting-cameraman in common with every other member of the studio. It means that our limited lighting resources have to be split between the two stages. Our lamp equipment is not abundant, as I have said, and when it has to be divided between two stages it becomes very scarce indeed. Available resources are kept working at maximum pressure on one stage, let alone two.

Those are some of the lighting-cameraman's difficulties in a small studio. No list would be complete for new problems crop up every day. That is what makes work at Highbury so full of interest. But whatever the problem we are confident that it can be overcome, for there is a spirit of enthusiasm and loyal co-operation throughout the studio. We replace the elaborate facilities of the major studios with human ingenuity and a real team-spirit.

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A LITTLE STUDIO DOING A BIG JOB

THE ART DIRECTOR'S RACE AGAINST TIME

Speed and Co-operation Essential

by DON RUSSELL

THE greatest problem facing an art director in a small studio is lack of space. At Highbury there is lack of stage space, lack of storage space for flats, staircases, set pieces, plaster work, furniture and props, and no space at all for the prefabrication of sets.

The size of our two stages, for example, is 98 by 51 ft. and 54 by 27 ft. On paper that might seem reasonable. In fact, No. 1 stage includes a balcony, which overhangs 10 ft. of its length, a 3-ft. gantry round the other three sides, and large double doors that must be kept clear of obstruction. After making allowances for tubular spotting and leaving room for lighting backings, the actual building space is considerably reduced.

Stage 2 is narrower one end than the other, and has a low beam across it. On this stage it is essential to place a set literally to the inch, and at the most odd angles, if, for instance, an arc is to be used through a window.

Lack of storage space means that all set pieces other than flats have to be broken up after use, and cannot be used to build up a stock for the future. No plaster columns, fireplaces, etc., can be stored, and only the most essential moulds can be retained. Furniture and props have to be stacked on the stage until required, which causes a further reduction in building space.

Night Operations

Having no erecting shop, all sets have to be constructed *in situ*. This means that, although a night gang is employed, it is very often necessary to build at the same time as the unit is occupying the stage. This is very unsatisfactory to both sides. The construction staff is continually interrupted in its work, and, anxious to get as much done as possible, go on working until the last possible moment. This in turn disturbs the unit, who retaliate by making more frequent and longer use of the red light.

The most worrying problem for the art director is to have the sets completed and dressed in time. In a studio with several stages, building can continue uninterruptedly, and it is possible to keep well ahead with set construction, even if, as so often happens, several sets take much longer to build than the time it takes to shoot the action on them.

Restricted space necessitates detailed planning. Having read the script, visualised the type of sets required and made some rough sketches, the schedule is worked out to the best advantage from the building point of view. Shooting begins on a set, which is required for at least three or four days, to allow time for the construction of one or two small sets. While the latter are in use, another main set can be constructed. So the process continues, until, last of all, come the back projection shots, leaving a clear stage for constructing sets for the next production. It sounds ideal, but, of course, the art department does not have all its own way, and there may be snags from the point of view of other departments, which cause alterations to be made in the schedule.

In the actual designing of sets, the main point to be remembered is which sets are required on the stage at the same time, and which have to follow. The approximate time it will take to build and strike sets must also be known. It resembles a jig-saw puzzle. Close consultation with the director is essential on the action and camera angles, so that the minimum is built, giving the camera operator a margin of about a foot all round to cut on.

Projected Transparencies

At Highbury Studios we have found one most effective method of obtaining greater depth than could possibly be obtained by building in the available space. We use projected transparencies. This is a great time-saver on the floor, but is a complicated process in the drawing office. It requires the full-time services of a specialist, who works out such calculations as the exact position and height of the camera and the distance of the foreground pieces and the artists from the screen. However, on our first attempt it only took us 15 minutes from the end of shooting on one set-up, to strike, re-erect the new foreground pieces and re-dress them, ready for the camera to shoot the next scene.

Photo backings also present space problems in a small studio, as the stage floor is the only available flat surface of sufficient area for mounting them. More valuable building space is tied up for 24 hours as a result.

However carefully a production schedule is worked out, the unforeseen occasionally occurs.

In these moments of difficulty lies the secret of the small studio's success. It calls for keenness and co-operation from every member of the studio. The main grouse from my craftsmen is that there is insufficient time to add the finish to the set.

Complete with old-type camera focussed on them, Peter Murray, Shaun Noble and Robert Parker get to work in a scene directed by Molly Terraine

The Company of Youth and The Work It's Doing

by MOLLY TERRAINE

A VISITING American journalist, impressed by what he had seen at the Company of Youth, paid us what he considered the compliment of the title, "Charm School." I think anyone who knows of the work we are doing would agree that his nickname for us is highly misleading. Many a visitor has arrived sceptical, prejudiced by false impressions from this title, but has left enthusiastic after seeing for himself the daily routine of the school, and the ideas which inspire our work.

We are continuously deluged with inquiries from hopeful young people who want to know how to join and, less frequently, with complaints that we only look for talent in London and the larger cities. Those complaints are totally unjustified. We are as keen to discover new talent as the boy or girl who possesses it is to be discovered. Our talent scouts cover the whole of the British Isles and there is no justification for any young actor or actress to feel that they have not the same chance as everyone else. Of course, previous acting experience is a great asset, but a lack of it is no bar.

A Serious Misconception

There still exists a serious misconception of the work we do. Students are frequently photographed in glamorous poses with their hair in the latest style and their skirt of the latest length. Many people conclude that life for the lucky man or girl is all roses and honey. This is untrue.

The day's work begins at 9 a.m. and finishes at 5.30 p.m. Many students have far to come, and Highbury Studios are not easily accessible by public transport. The work is by no means a rest cure. They are taught the art of graceful movement, and fencing instruction is included, as it not only imparts suppleness and poise, but also necessitates keeping one's eye on the opponent, which assists in eliminating blinking—an important lesson for a film actor whose face may be enlarged 150 times in a close-up. Classes are held in diction, and breathing exercises are taught as an important adjunct.

Play and film readings and play and film rehearsals are held, and the technique of acting for the camera instead of for an audience is taught.

Practical experience is given by parts in the Connaught Repertory Theatre at Worthing, and by small parts in films. Producers within the Rank Organisation who require a young man or girl for a small part frequently use our resources. Recently the reopening of Highbury Studios to make "curtain-raisers" has given a wonderful opportunity to our students to play larger parts—in some cases the lead. This has proved invaluable experience for them.

Some of Our Problems

The very fact that we have so wide a curriculum and that our members are so useful to producers presents us with many difficulties. We consist at present of some twenty young men and girls. Yet there is hardly a single day on which all twenty are at the school. One may be playing a small walking-on part at Shepherd's Bush; another may have a part in a "curtain-raiser" at Highbury; a third may be doing a screen test at Pinewood, Denham or Ealing. Others may be required for fittings, or to be photographed, or to make a publicity appearance. Of those that are present on any one day, some are advanced students, some are beginners, and both must be specially catered for.

So you see we have our problems; but we have overcome them all, inspired by the knowledge that British films need new actors and actresses, and we are a principal means of ensuring not only that they are produced, but also that they are the best obtainable.

E

G.E.C.

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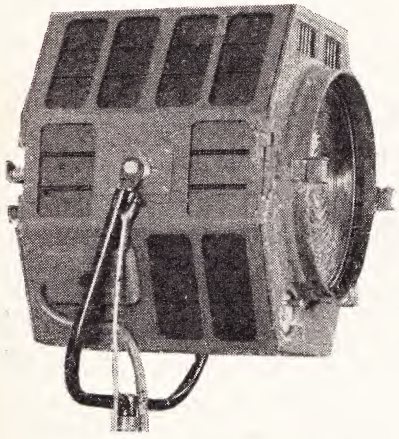
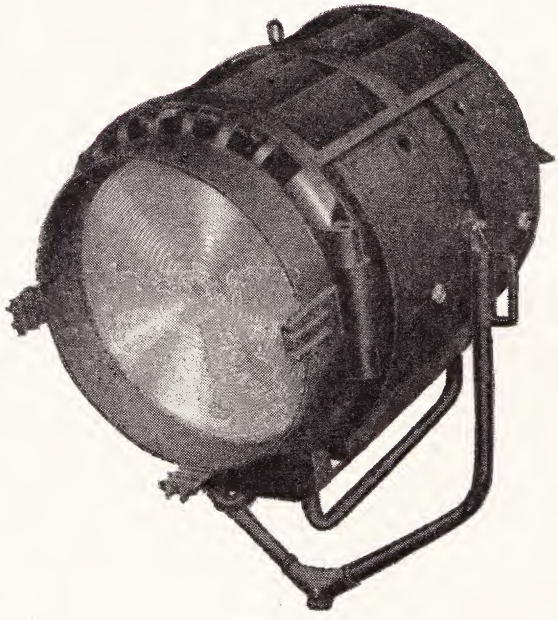


G.E.C. 5 kW Studio Spotlight. An example of the latest type of light alloy incandescent spotlight.

ARC



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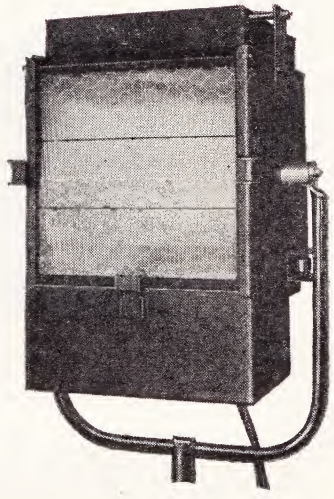

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THE MODERN TECHNIQUE IN SOUND RECORDING METHODS

An Examination of the State of Progress and Knowledge in Each Component Part

by B. C. SEWELL, Chief Sound Engineer, Gainsborough Pictures

THE business of recording for motion pictures is a hybrid activity, involving on the one hand the application of scientific principles and the results of fundamental research, and, on the other, the development of technique for dealing with varied problems of production and dramatic value. It is unwise to segregate these components entirely, and progress owes much to the film-minded or musically inclined engineer.

Regarding the first, it may be said of the present state of progress that the basic requirements for design and correct operation of recording apparatus for sound-on-film are very adequately explored and fairly widely understood, and, therefore, as in most technical processess, it remains to maintain the required accuracy of control over the many individual links in the chain of operations. It will be profitable to set out this chain, and to examine briefly the state of progress and knowledge in each component part.

The Microphone

We have then the following series, from original performance to final audience: First, the actor's voice and the acoustic conditions in which he performs. Microphones, since they vary in principle, must be included. The recording channel may be of a type which permits a wide range of electronic controls and corrections to the operator, or may be of simpler nature, while the film modulation system may be variable density or area, and it may or may not provide push-pull working. The film-drive mechanism must be adequately free from flutter, and the efficiency in this respect may be better in some designs than in others.

Film stock has been specially developed to suit the particular type of recording. Processing requirements also vary according to the type of modulation, and have to be investigated, determined, and maintained with the utmost care. The track is always re-recorded, so that the process of recording, with any of its small residual imperfections, is repeated.

The final link to the audience is the theatre equipment and acoustics.

Acoustic Fidelity

Certain of the above technical aspects deserve further comment, in the light of the more recent developments. Microphones of directional type are now more commonly used for dialogue recording, although still in a minority. They are of value in reducing background of unwanted noise, may sometimes reduce undesirable acoustic effects in the set, and, in general, may be used at greater distances from the artist, thus improving facility in working. The more modern equipments

give the recordist equalisation facilities sufficient to make essential correction for acoustic conditions and variations in voice loudness and quality between different artists, whilst Electronic Compression, though used for some time with most variable area equipments, is now coming into more general favour. Used with discretion to suit circumstances, compression promotes improved intelligibility, and permits, when required, somewhat increased apparent loudness of the recording.

Push-pull recording is coming into use in this country both on variable area and variable density systems, although present conditions are retarding the development. The object of these systems is to reduce fundamental distortions connected with the photographic part of the process, and correspondingly increase the tolerance limits within which the laboratory must work, but it is unfortunately necessary for more accurate optical adjustments to be maintained for these advantages to be achieved. There is no royal road to trouble-free recording. Increasing elaboration is seen in re-recording equipments, with equalisation units, compressors and limiters, and increasing skill shown in their operation, the purpose of which is to maintain consistency of quality and volume, and provide adequate dramatic effect where needed.

Towards an Art Form

So far the factors considered have been those which are capable basically, of measurement and standardisation, although individual judgment is needed in their use. It would be reasonable to suppose that most progress remains to be made in respect of those aspects which are least capable of precise evaluation, and in which aesthetic qualities are particularly involved. It is a fundamental of any art that the natural confines of the medium are overcome by subtle suggestion and convention, and on this basis recording has some claim to the title of an Art, since the medium is certainly confined, and incapable of producing a fully realistic image. It does so in some measure largely by these qualities of suggestion and convention which the cynic might define as the conditioned and tolerant ear of the average audience.

Since the pictorial image is confined to the limited area of the screen, it would seem desirable that the apparent source of sound should be similarly restricted, and that it should be in the plane of the screen, although there are, of course, dramatic possibilities in the deliberate location of a sound "image" off-screen, the usual argument in favour of multi-channel stereophonic sound, with all its attendant complications. Under present circumstances the most important consideration is probably that of the "screen plane" sound image, and this seems to be influenced in large measure by the acoustic conditions in the theatre, which are not under adequate control.

Reproduction Limitations

The science of acoustics is, in fact, insufficiently developed in this direction to enable the proper conditions to be defined. The single channel presents limitations which are the subject of some speculation; for instance, it is believed to be much easier to create the image of the sound source in the screen plane by a stereophonic system, with less dependence upon the acoustic conditions, although there would be great difficulties in maintaining this advantage over the whole of the large area of a kinema. Another aspect is that of background music, which it is desirable to reproduce as from a diffuse source. This is achieved to some extent by proper choice of acoustic conditions in recording, but the impression of a spacious source is not complete. A limited impression of depth may be created, but the source of sound is the same, and the listener is unable to discriminate between sounds from different directions as he automatically does in real life. It accordingly becomes impossible to employ natural loudness of background sounds, including music, and, at the same time, preserve the audibility of dialogue.

"Natural" Artificiality

It is often assumed by artists and others that it is only necessary for the performance to be natural, for an automatic mechanical and electrical system to produce an equally lifelike and satisfactory impression in the kinema. Some indication has been given of the essential artificiality of the process to show the fallacy of this idea. Kinema conditions make it essential to maintain gradations of voice volume within quite a narrow compass to preserve audibility, and whilst it is not even desirable that the artist should narrow the range of his performance to a corresponding degree, he should be prepared to assist the process. If he does not, very large corrections have to be applied and the result is not as "natural" as it could have been with his aid. The question of voice quality and clarity of diction is of great importance, because differences in voice value which are not ordinarily noticeable become apparent under conditions of recording and reproduction. Cases are known of voices which are definitely not suitable for recording purposes, and only partial remedies can be applied.

Perspective Technique

Music is playing an increasingly important part in present-day production, and the quality of recording has shown improvement, largely owing to increased attention to acoustic considerations. Special stages and shells are normally used, and while further progress is possible in the future, the benefit of these improvements has been very apparent. Methods of recording actual musical sequences have become more elaborate, involving separate tracks of solo instruments and of vocalists, thus enabling perspective effects to be achieved, and a higher standard of dramatic and entertainment value. One result of this technique is that the effect of a concert performance can be rendered with a singer whose voice is not sufficiently powerful in reality.

Magnetic Recording

Developments in magnetic recording have made great advances, and adaptation of this method for film purposes may soon be accomplished. If it should be adopted in studio practice some benefits may be anticipated in economy of working, although it is doubtful if any appreciable benefit to quality would result. In fact, progress in quality of sound, and value to the film as a whole is likely to be achieved in gradual stages, by increased understanding and co-operation, and by advances in architectural acoustic technique within the kinema, rather than by any spectacular development which might bring in its train more problems than it would solve.

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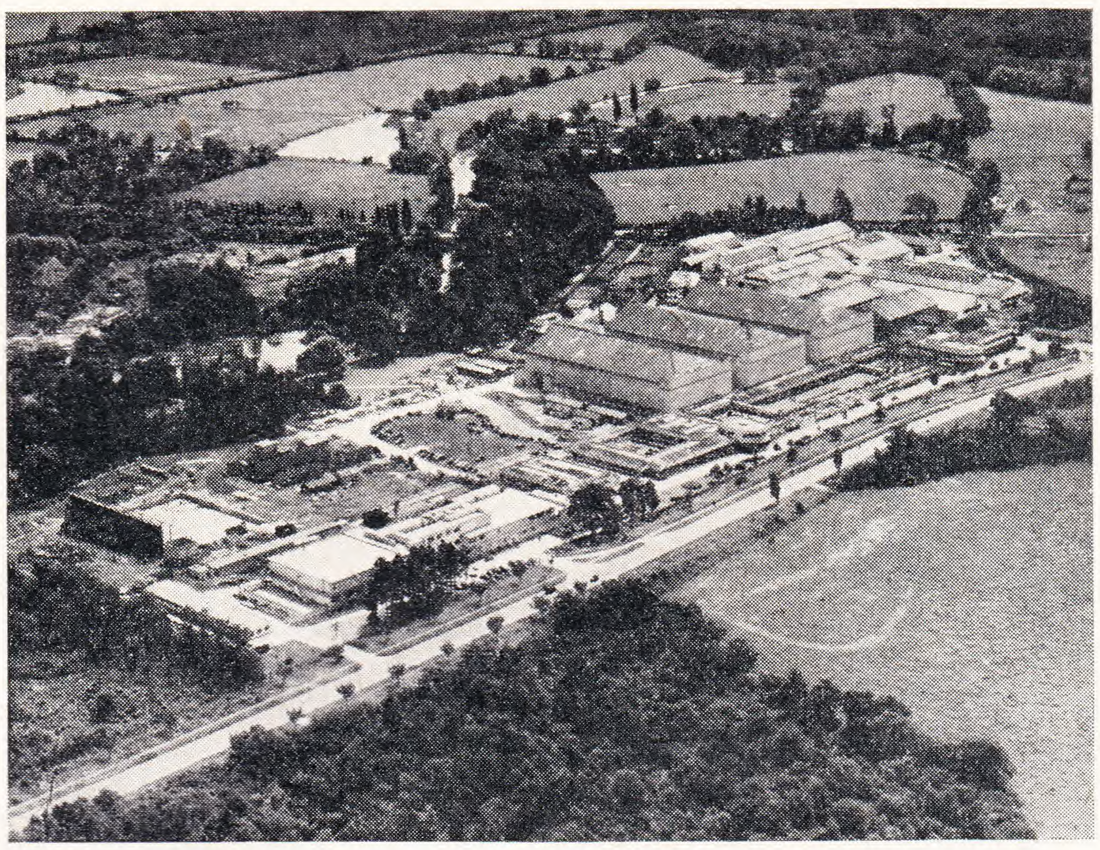

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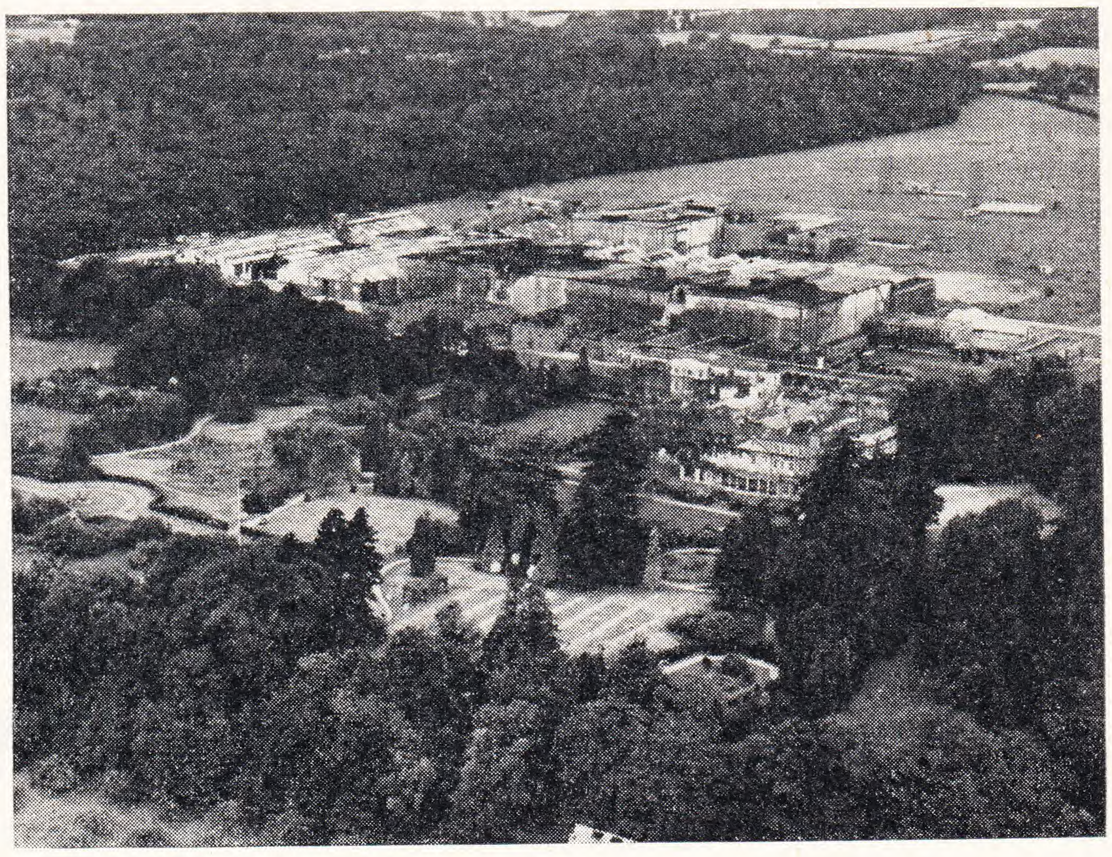

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CONTROLLING THE ELON-HYDROQUINONE DEVELOPER

The Relative Merits of Sensitometric and Chemical Control of Baths

By G. I. P. LEVENSON, Ph.D., B.Sc., of KODAK RESEARCH LABORATORIES

THE results of some years of research into the properties and control of the elon-hydroquinone developer were summarised by G. I. P. Levenson, Ph.D., B.Sc., of Kodak Research Laboratories, at a B.K.S. meeting recently. Dr. Levenson showed numerous slides illustrating the effect upon development of changes in the constitution of the developer, and discussed the value and shortcomings of chemical analysis and pH control.

Levenson first discussed the relative merits of sensitometric and chemical control of baths. By means of sensitometric strips the controller of a bath can tell what the current performance of a bath is; but this photographic method of assessment is an uncertain method of predicting what the bath will be doing in a few hours' time.

If a new D76 bath is installed in an unreplenished system where it is circulated and freely exposed to air, it will become more and more active, and may even necessitate a reduction in development time; then suddenly it will collapse. The acid liberated in the reduction of silver halades of the normal negative is not sufficient to counter the tendency for the alkalinity to increase as hydroquinone is oxidised atmospherically in the presence of sulphite.

Since the buffering of D76 is poor, the pH rises, so increasing the rate of development; this process continues until most of the hydroquinone is consumed, and then the drop in elon concentration becomes more rapid and the bath collapses.

Chemical Changes

Therefore, if a bath is to be operated continuously, knowledge of the chemical changes that take place is necessary; for this and other reasons there has been a marked tendency in recent years to introduce chemical analysis into the laboratory. The speaker suspected, however, that some laboratories employed skilled chemists and bought expensive analytical gear partly to be in the fashion, because it was unlikely that a satisfactory technique of replenishment that had been worked out over a period of years by trial and error could be radically improved by analytical control. In particular, if a laboratory prefers to discard a negative bath when it shows signs of deteriorating, the only useful purpose served by chemical analysis is to adjust the pH.

The most important application of chemical analysis is in connection with baths that are to be continuously maintained. It is also possible to practise considerable economy by converting a partly used negative bath into a positive bath or replenisher.

Dr. Levenson gave a warning against making use of analysis without knowledge of the photographic significance of the various factors. Attempted control of the pH by means of replenisher might, for instance, cause the pH to vary more widely than ever; unless the photographic effect of a variation in elon-hydroquinone ratio is known, analysis cannot indicate whether a deviation in the bath is due to this or some other cause.

Contrary to previous findings, the lecturer had found that modifications of the elon-hydroquinone ratio led to considerable changes in performance. Accordingly some years back he started on a systematic study of the effects of changes in the ratio, in the concentrations of sulphite and bromide, and in the pH.

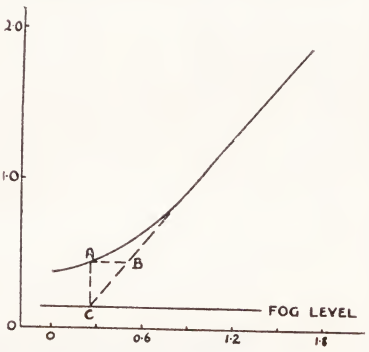

Fig. 1—Determination of emulsion speed by the inertia point C and of toe shape by the displacement A-B

Considering first the mechanism of the elon-hydroquinone developer, the speaker showed slides indicating that the rate of development in such a developer was greater than would be predicted from the development rates in developers containing separately equivalent amounts of the two chemicals. This super-additivity phenomenon results from a two-stage development process. The elon is the active developing agent; this reacts with the silver bromide and becomes oxidised. In the absence of hydroquinone the oxidised elon would be converted to elon sulphonate by reaction with the sulphite in the developer; but when hydroquinone is present, it regenerates elon by reducing the oxidised elon before the latter can be sulphonated. The oxidised hydroquinone forms hydroquinone sulphonate by reacting with the sulphite.

The function of the elon may be described as that of an intermediary between the hydroquinone and the silver bromide, carrying electrons from one to the other. As the alkalinity of the developer is increased, the reduction potential of the hydroquinone increases more rapidly than that of the elon, and therefore the most active combination of elon and hydroquinone will contain less and less elon.

The essential difference between negative and positive developers is the pH value or alkalinity. Negative developers have a pH of about 9.0, and positive developers from 10.0 to 10.5. Typical formulæ chosen for research work were, for negative, the D76 formula, and for positive an arbitrary formula based upon the average of a number of equilibrium bath formulæ. Experiments were conducted varying the elon-hydroquinone ratio, the concentrations of bromide and sulphite, and the pH photographic values chosen were for negative, a gamma of .65, and for positive 2.0, and the performances of the developers were compared at these critical gamma values.

Emulsion Speed

In the determination of emulsion speed the value taken was the inertia, or the point in the log *E* axis where the continuation of the straight-line portion of the curve intersects it, a method suitable for use with a fixed gamma.

The shape of the toe of the positive is also of importance, in that it affects the reproduction of fine tones in the highlights of the picture. A method employed of expressing the shape of the toe numerically is illustrated in Fig. 1; *C* is the inertia point, and *AB* is the log *E* separation of the curve from the straight line.

Dr. Levenson showed the results of his work in the form of a large number of curves, which demonstrated the effect of varying any one of the various components of a developer.

Fig. 2, for instance, shows the effect upon effective emulsion speed of varying the elon-hydroquinone ratio at different pH values (full lines). The speaker drew attention to the fact that the hump of the centre curve corresponds to the D76 formula, confirming the selection of this formula for negative development. The dotted lines represent various concentrations of bromide above and below this formula.

Rate of Development

While the effective emulsion speed given by low pH developers is in general optimum at comparatively low concentrations of elon, the rate of development, as was shown by other curves, increases with an increasing proportion of elon. In the case of positive type developers, however, the emulsion speed increases markedly with increasing proportions of elon, while the time of development reaches a minimum at a rather low concentration of elon (Fig. 3).

Contrary to the widely held view, Dr. Levenson's work showed that varying proportions of elon and hydroquinone had no significant influence upon the shape of the toe.

The speaker next turned to the question of the rate of consumption of developer, expressed in terms of the relative rates of ex-

Continued on page 86

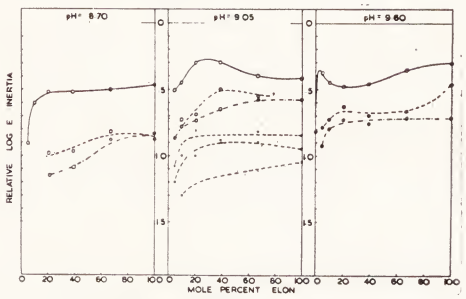

Fig. 2—Effect upon negative emulsion speed at different pH values of changes in elon-hydroquinone ratio (full lines) and of bromide conservation (dotted lines)

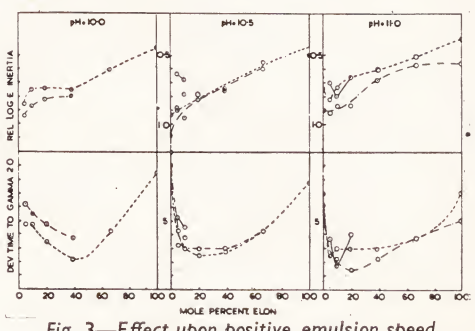

Fig. 3—Effect upon positive emulsion speed (above) and on rate of development (below) of changes of elon hydroquinone ratio

THE LAW OF COPYRIGHT AS APPLIED TO THE FILM

Not Concerned with Originality of Ideas but with their Expression

By A. KRESTIN, LL.B., Adviser to the C.E.A.

THE law of copyright as applied to the sound film was the subject of a meeting of the B.K.S. The speaker was A. Krestin, LL.B., one of the firm of solicitors to the C.E.A.

Krestin first defined copyright as the sole right to produce or reproduce in any material form an original literary, dramatic, musical or artistic work, or any substantial part of such work, and if the work is unpublished, to publish it, or any substantial part of it. It includes the right to publish translations, to convert a play into a novel or a novel into a play. It includes the right to make any record or kinematograph film by which the work may be mechanically performed.

Ideas or opinions are not the subject of copyright, but only the form in which they are expressed. Copyright is not concerned with originality of ideas, but with their expression. To entitle a work to copyright there must be skill or labour employed in producing the particular form in which the work is expressed. It is not an infringement of copyright to make a film of actual events, such as a football match or horse race. An arrangement of old music may be the subject of copyright.

"Passing Off"

While a title of a book or film is not generally a matter for copyright, the wrongful use of a title may give the right to damages for "passing off"; the owner of a copyright work is entitled to prevent a person from "passing off" as a film version of that work something which is not in fact a film version of it.

There can be no copyright in a mere scenic effect or gag which is not reduced into some permanent form, but a piece for recitation, a choreographic work, or entertainment in dumb show, the arrangement of which is fixed in writing or otherwise, is protected. A kinematograph film is protected as a dramatic work, but a film of events in real life is not a "production" within the meaning of this definition, although it may be protected as an "artistic work."

There is copyright in musical works, whether an original composition or an arrangement of old music. There is also copyright in records or other contrivances for mechanical reproduction.

Copyright cannot exist in a work of grossly immoral tendency, nor in a work which is libellous, blasphemous, or seditious.

An unpublished work is copyright if the author is a British subject, or a foreigner if resident within the British Empire. But the performance in public of a dramatic or musical work does not constitute publication. If first publication has taken place elsewhere than in the British Empire an author can never obtain British copyright.

While the author of a work is the first owner of the copyright it has been held that there may be separate authors of the plot, of the scenario, of the arrangement of scenes to be filmed, and of the artistic work comprised in the film itself. In practice, this position does not often arise, because the scenario writers and directors are usually employed under an agreement by which their work becomes the property of their employers.

As Applied to Photos

The term of copyright in photographs, and any works produced by any process analogous to photography, is 50 years from the making of the original negative. In the case of literary, dramatic, musical or artistic works, the period is the lifetime of the author, composer or artist and 50 years after his death. In the case of joint authors, the term is the lifetime of the first to die and 50 years after his death, or the lifetime of the author who dies last, whichever is the longer.

Twenty-five years after the death of the author of a published work anybody is entitled to reproduce the work for sale, provided he gives notice of his intention to do so, and pays a royalty of 10 per cent. This provision does not give any right to perform in public a published work; Krestin expressed the opinion that it did not apply to a kinematograph film.

Once a musical work has been mechanically recorded anybody is entitled to make further records upon giving notice to the owner of the copyright and paying royalties of 6½ per cent. An important question that may arise is whether this provision would enable a sound film to be made of works which have been previously recorded on gramophone records; again the opinion was expressed that this would be the case, and conversely that gramophone records could be made from sound films. This provision does not enable a person to make gramophone records directly or indirectly from previously made records, which are themselves copyright. Further, records so produced may be performed only in private.

The Owner's Rights

The owner of a copyright may retain part of his rights and assign other parts. It has been held that a licence to produce a work "in moving pictures" did not authorise the production of a sound film, which would, however, have been included in the term "kinematograph films."

Turning to the question of infringement, the speaker defined the term as the reproduction of a work or any substantial part of it, in any material form whatsoever, without the consent of the owner of the copyright. It is also an offence to make colourable imitations. The onus of establishing breach of copyright is on the plaintiff. It has been held that even eight bars of a piece of music might constitute a substantial part.

It is also an infringement of copyright to produce a translation of a work, to dramatise a novel, to make a novel of a play, or to make a film whereby the work may be performed. It is not an infringement of copyright to use another person's plot, but it is an infringement to reproduce the dramatic situations in substantially the same sequence. If a film makes use of a substantial part of the words of a novel or play, or colourable imitations thereof, or uses a substantial part of the dramatic incidents represented, there will be infringement.

The copying of single frames of film cannot be restrained by the owner of the dramatic copyright, but it probably could be restrained by the owner of the artistic copyright.

Krestin listed a number of ways in which copyright could be infringed: by performance in public, by publication, by dealing with a copyright work, or by authorising any of these acts. Copyright is infringed where a person permits a theatre to be used for public performance of a copyright work, or by the making of a record by which the work may be mechanically reproduced.

Certain cases do not amount to infringement—for instance, a fair dealing with any work for private study, research, criticism, or newspaper summary. It is not an infringement to draw, paint, or photograph any work of art permanently situate in a public place.

Sponsor's Position

Where a kinematograph film is ordered and made for a valuable consideration, the copyright belongs to the person giving the order, who is entitled to make alterations in the film, unless they are of such a nature as to hold up the maker of the film to hatred, contempt or ridicule; the mere fact that the film is published in a form likely to injure the maker's reputation will not give the author any remedy.

Several questions were asked during the subsequent discussion to clarify the rights of the screen writer. A. Krestin explained to N. Morgan that British copyright was extended to those countries which, by the Berne Convention, agreed to reciprocity. He told A. Cannon that the use of a photograph to establish details such as historical facts or a type of dress would not constitute infringement.

Controlling the Elon-Hydroquinone Developer

Continued from page 85

haustion of elon and hydroquinone at different concentrations per unit of silver reduced.

It has been suggested that, since hydroquinone is inert at low pH values, the hydroquinone is best omitted to avoid aerial oxidation. Curves showed, however, that this would be an expensive procedure while elon remains three times the cost of a chemically equivalent quantity of hydroquinone, since in D76 only half the amount of elon would be used than if it were an all-elon developer. Another fact is that a considerable amount of developing agent is lost by adsorption in the film.

At higher pH values, the proportion of elon consumed greatly diminishes, and in developers containing less than 30 per cent. of the developing agent as elon, the amount of elon consumed in the development is almost negligible. The relative rates of consumption of elon and hydroquinone are not affected by a change in the sulphite and bromide concentrations.

Dr. Levenson next turned to consideration of methods of chemical analysis, and discounted some of the claims made for a high degree of accuracy. In particular, methods by which the elon concentration is found by subtraction from the total litre of the elon and hydroquinone are not good.

The pH value is critical, in that it determines the general level of activity of a developer. Developers in the range 8.5 to 9.5 need careful pH control, while positive developers containing the usual concentration of sodium carbonate at pH 10.0 are fairly well buffered and do not readily change in pH. Above a pH of 10.0 a change in pH does not have a marked effect on the relationship between the elon-hydroquinone rates and the photographic performance.

A buffer solution worked out by Kodak consists of:

Sodium carbonate (anhydrous)	5.00 g.
Sodium bicarbonate	5.00 g.
Sodium chloride	58.50 g.
Water to	1 litre

This solution gives pH very close to 9.30, and keeps well.

The speaker expressed the view that analysis for carbonates and borates was superfluous for control purposes; if the concentrations in the initial bath and in the replenisher are known, the concentration in the bath is known sufficiently closely. The concentration of bromide, on the contrary, has a considerable effect, and maximum emulsion speed in negative developers can be achieved either by rejecting the bath at frequent intervals or by replenishment at a high rate.

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TWO CITIES AT DENHAM

"Hamlet" Heads List of 14 for Delivery in 1948

A SPEED-UP in production is promised during 1948 by Two Cities, who propose to produce four films simultaneously at Denham instead of three as in the past.

Next year's programme covers a wide range of subjects. Under the joint managing directorship of Josef Somlo and Earl St. John, the company proposes to complete fourteen subjects during the year.

Two of these, already slated for early presentation, are "Hamlet" and "Vice Versa." Sir Laurence Olivier's presentation of "Hamlet" has been made in the same way as Olivier believes Shakespeare might have approved it had he been a modern screenplay writer. This 2½-hour film is credited with retaining the artistic integrity of the original play. Olivier himself plays the title-rôle, with Eileen Herlie as Queen Gertrude. Jean Simmons is Ophelia; other parts are played by Basil Sydney, Felix Aylmer, Norman Woolland, Terence Morgan, Esmond Knight, and Stanley Holloway.

Laurence Olivier and Eileen Herlie in HAMLET, which is now in the cutting stages

15-Year-Old Discovery

A new discovery, 15-year-old Anthony Newley, plays the part of Dick Bultitude in Peter Ustinov's screenplay of "Vice Versa," based on the Anstey comedy. The film is produced by Peter Ustinov and George Brown and directed by Peter Ustinov.

"The Mark of Cain," an adaptation of the novel by Joseph Shearing, "Airing In a Closed Carriage," is an emotionally dramatic story concerning a young wife who, by reason of overpowering circumstantial evidence, is unjustly accused of her husband's murder. Eric Portman and Sally Gray star with Patrick Holt and Dermot Walsh. This film is produced by W. P. Lipscomb and directed by Brian Desmond Hurst.

Also for early release is a delightful comedy with music, "One Night With You," starring Nino Martini, celebrated tenor of the New York Metropolitan Opera Company, and Patricia Roc, with Bonar Colleano and Stanley Holloway in a comedy rôle. The film is produced by Josef Somlo and directed by Terence Young.

Cast for Walpole Film

Hugh Walpole's well-known story of English public school life, "Mr. Perrin and Mr. Traill," will be produced by Alexander Galperson. The script is by L. A. G. Strong; Laurence Huntingdon will direct. The stars are Greta Gynt, Marius Goring.

Somerset Maugham's recent best-seller "Then and Now" will be produced by Arnold Pressburger from a script by Thorold Dickinson and Simon Harcourt Smith. Thorold Dickinson will direct; George Sanders is cast to play Cæsar Borgia.

George Brown will produce "Sleeping Car to Venice." This comedy thriller, depicting the events of a 36-hour journey across Europe, will be directed by John Paddy Carstairs; the stars are Jean Kent, Albert Lieven, Anne Crawford and Derrick de Marney.

Stewart Granger is scheduled to star in two productions: "Woman Hater," an original story by Alec Coppel, with script by Robert Westerby.

The second production, in which Stewart Granger will star with Jean Simmons, is a comedy drama, "Adam and Evaline," from an original story and script by Noel Langley.

Mills as Director

John Mills will direct and star in a production—details not yet finalised. Margaret Lockwood will star in a production tentatively titled "My Sister is Dead," to be produced by Harold Huth.

Ivor Novello, producing for the first time, will make "Perchance to Dream," a Technicolor adaptation of his great London musical stage success.

Willi Forst, the well-known Viennese director-producer, has also signed a contract to make films for Two Cities.

Another subject, tentatively titled "Her Majesty the Housewife," will be produced, based on an original story by Esther McCracken and Val Valentine, and it is hoped to star Celia Johnson.

The second J. Arthur Rank-RKO production to be made at Denham is "The Captain Was a Lady." It is hoped that Gary Cooper will play the lead.

Emrys Jones protects Barbara White from Sonia Dresdel in a scene from THIS WAS THE WOMAN, produced by Marcel Hellman and directed by Tim Whelan

MARCEL HELLMAN

World-Wide Appeal Behind New Programme

THE release of one and the production of two major films represent Marcel Hellman's programme for Excelsior Film Productions in 1948.

"This Was a Woman" is scheduled for screening early in the New Year, and he anticipates making "Sabina" in the Spring, to be followed later in the year by "The Good Earl." These productions are for world-wide release through Twentieth Century-Fox.

"This Was a Woman," completed in the late autumn, 1947, is a film adaptation of Joan Morgan's successful play which had a long run at the Comedy Theatre. Adapted by Val Valentine, it tells the dramatic story of a woman who destroys the happiness of her family and household through her insatiable desire for power over their individual members. Although this is a psychological study in evil concerned with only nine principal characters, the action of the story is said to maintain its many exciting moments against a variety of backgrounds and interesting locations.

Dynamic Role

In "This Was a Woman" Sonia Dresdel recreates her virtuoso performance which won her fame overnight in the theatre. An artist of great dramatic power and beauty, she gives a subtle characterisation of the wickedest woman probably ever seen on the screen.

Co-starring is Barbara White, who plays the daughter, whose happy marriage is almost wrecked by her mother's machinations.

The notable feature cast includes Walter Fitzgerald, the long-suffering and endearing husband; Cyril Raymond; Emrys Jones; Marjorie Rhodes; Lesley Osmond, a promising newcomer.

Marcel Hellman has always been noted for his ability as a discoverer of star talent, and in "This Was a Woman" there are two new discoveries in important parts. These are Celia Lipton and Julian Dallas. Celia, at 23, a star of radio, musical comedy, variety, pantomime, and a highly praised Peter Pan, makes her film debut as Effie, the maid whose youthful innocence is perverted by her scheming mistress. Julian Dallas, who became an actor for the first time on being discharged from the R.A.F., has in a short time reached leading parts. He plays the part of the bio-chemist-husband of Barbara White and friend of Emrys Jones.

Whelan's Credits

Tim Whelan, who returns to England for this production, has a long list of successful British as well as American pictures to his credit. He believes this picture to be one of the most important in his career.

Mischa Spoliansky, associated with Hellman on many productions, and whose "Voice in the Night" theme for "Wanted for Murder" was a popular hit, has composed a symphonic score for "This Was a Woman." He has also cleverly woven into the score a second theme in concerto form, to be played by Barbara White.

Two More Set

The next Excelsior production, "Sabina," is a romantic and unusual subject based on the best-selling novel by Joyce Langton. This picture, it is anticipated, will star an actress of international repute in the rôle of a young sculptress.

The Earl of Shaftesbury, the famous English politician and philanthropist, who so endeared himself to the people that they subscribed to the world-renowned memorial Eros, which now commemorates him in Piccadilly Circus, is the subject of "The Good Earl." This will be produced later in 1948, and is an adaptation of the story by Richard Fisher and Peter Creswell.

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ASSOCIATED BRITISH

ELSTREE AND WELWYN

New Studios' Opening Will Mark Coming-of-Age Year

ONE of the oldest producing companies in the Industry, Associated British celebrates its coming-of-age in 1948. To mark this, it will open its new studios at Elstree. Here, the new sound stages, complete with modern equipment, will allow the company further space for such productions as cannot be accommodated at Welwyn.

The aim of those responsible for Associated British productions during the past year has been to build up a steady flow of films which couple good entertainment with high technical quality and gives to the screen the new and potential talent, without which we cannot maintain a steady progress. Not only are they determined that product shall not fall in quality but they believe that it can be maintained on a moderate cost and with production schedules speeded up.

Among the outstanding Associated British films completed in 1947, to be shown early in the New Year, are :—

"My Brother Jonathan," based on the Francis Brett Young novel, the film, which stars Michael Denison, Dulcie Gray, Ronald Howard and Stephen Murray, is a moving story of a young doctor's life and brings two new stars and a new leading lady to the screen. In the title rôle, Michael Denison, a comparative unknown, not only attains film stardom, but has been placed under contract to the company and is likely to prove one of our most popular young stars in British films.

A Popular New Star

Another new star under contract is Stephen Murray, a character actor, whose popularity has soared overnight. Murray has a starring rôle in the new Launder-Gilliat film, "London Belongs to Me," and is to appear as Lewis Carroll in the Lou Bunin production of "Alice in Wonderland."

The new and promising leading lady in "My Brother Jonathan" is Beatrice Campbell, a young Irish actress, who gets her first big screen chance in this film. She, too, is under contract to Associated British.

"My Brother Jonathan" is produced by Warwick Ward and directed by Harold French.

A Boulting Brothers' production for Associated British is "Brighton Rock," a psycho-thriller, based on the novel by Graham Greene and concerns a 19-year-old gangster. Pinkie, who is the victim of frustration and circumstances.

In "Bond Street," a World Screenplays production, is presented the story of a London street, famous throughout the world. Written by Terence Rattigan, Rodney Acland and Anatole de Grunwald, the film is directed by Gordon Parry and is, incidentally, his first directorial assignment. Its principal players are Roland Young, Hazel Court, Jean Kent, Derek Farr, Robert Fleming and Paula Valenska. This last-mentioned is a Czech actress who was brought over specially to appear in the film.

The story concerns the lives and difficulties of a group of people closely concerned with an attractive Society girl, whose wedding trousseau is bought in Bond Street. Her wedding dress, her veil, her going-away clothes, a lovely pearl necklace, the wedding gift of her father, are the items whose story is a thread—woven into the film's pattern of comedy and tragedy.

Six for 1948

During the coming year, though plans regarding stars, stories and directors are not yet finalised, Associated British has picked the following six pictures, to take the floor.

"Queen of Spades," another World Screenplays production, based on a Pushkin short story, with a definitely international appeal.

"Noose," from the successful stage play by Richard Llewellyn, author of "How Green Was My Valley" and "None But the Lonely Heart," will be produced by Edward Dryhurst Productions at Teddington.

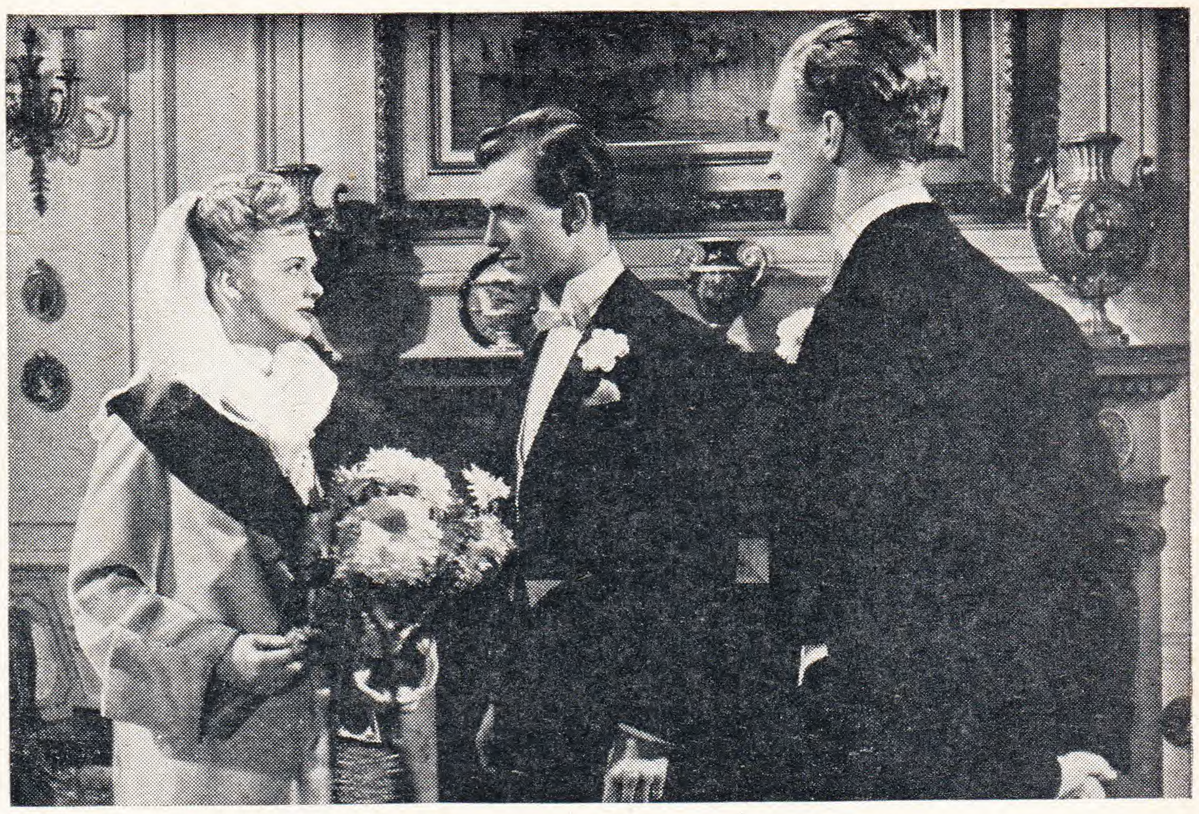
"Silent Dust," an Independent Sovereign Films production for Associated British, from an original story by Michael and Roland Pertwee. The film will be presented and produced by N. A. Bronsten at Teddington and will star Claude Rains.

"For Them that Trespass," a colourful story from the novel by Ernest Raymond, is another Associated British subject scheduled for early production.

"Home Town" (title provisional). The same team which made such a success of "Temptation Harbour" will make this second Simenon film. Victor Skutezky will produce. The story is in an entirely novel form and tells of an adventurous rogue who returns to his home town after 20 years spent abroad. Ruthless in his designs, though possessed of great charm, he conquers the inhabitants of the town—men and women alike. This chronicle of an astonishing career abounds in absorbing human and psychological interest, mingled with romance, humour and incidents of exciting drama.

Talent Search

The search by Associated British for new talent goes on, and those artists now under contract have certainly distinguished themselves. Derek Farr, Helen Shingler, Joan Dowling, Joan Hopkins, Beatrice Campbell, Michael Denison and Stephen Murray are all Associated British discoveries, of whom we shall see and hear much. Joan Hopkins is now starring with Robert Morley in the screen adaptation of "The First Gentleman," and Michael Denison co-stars in the new Sydney Box production, "The Blind Goddess."



A scene from MY BROTHER JONATHAN, produced by Warwick Ward and directed by Harold French. The players are Beatrice Campbell, Michael Denison and Ronald Howard

INDIVIDUAL PICTURES

Gilliat-Launder Team Will Use Colour at Monochrome Costs

THE premières of its most ambitious productions will make 1948 an outstanding year for the writing - producing - directing team of Individual Pictures—Sidney Gilliat and Frank Launder.

The first première will be that of Gilliat's subject, "London Belongs To Me," the screen version of the best-selling novel by Norman Collins, head of the B.B.C. Light Programme, which was sold in U.S.A. under the title "Dulcimer Street."

This story of life in a London boarding-house is now in production at Pinewood, with Susan Shaw, Richard Attenborough, Alastair Sim, Stephen Murray, Andrew Crawford, Fay Compton, Wylie Watson, Joyce Carey, Ivy St. Helier, and Gladys Henson in leading rôles.

Meanwhile, Frank Launder will be completing Individual's first Technicolor production, "The Blue Lagoon." Following six weeks' location work in the Yasawa group of the Fiji Islands, the star, Jean Simmons, and the unit will return in March to complete the floor work.

When "London Belongs To Me" ends, a new experiment in the use of colour is planned by Sidney Gilliat. The production will not be "lavish," and careful technical planning will enable Gilliat to operate on a normal black-and-white budget.

First Colour Subject

For this, his first colour subject, Gilliat has written a thriller concerning the adventures of one man in modern Europe, and he is negotiating for a Technicolor camera.

In addition, he is contemplating a further story, featuring Alastair Sim as Inspector Cockrill—the character Gilliat made famous in his hospital thriller, "Green for Danger." Frank Launder is preparing a script based on the life of a British beauty queen.

From Off the Shelf

Other productions which had been temporarily shelved, but are now being reconsidered by the team for 1948 production, are film versions of Charles Reade's "Cloister and the Hearth" and Crosbie Garstin's "The Penhales." Also under consideration is a story written by Gordon Wellesley, entitled "A Bed in Paradise," based on events in the life of an amnesia victim.

DERRICK DE MARNEY'S NEXT ROLE

Numerous subjects have been completed during the past year by Concanen Productions, an independent producing company headed by actor-producer Derrick de Marney for the C.O.I., War Office and other sponsors. These include films dealing with Road Safety, Recruiting for the Navy and Coal Mines, also Profiles No. 1 (the first of a series).

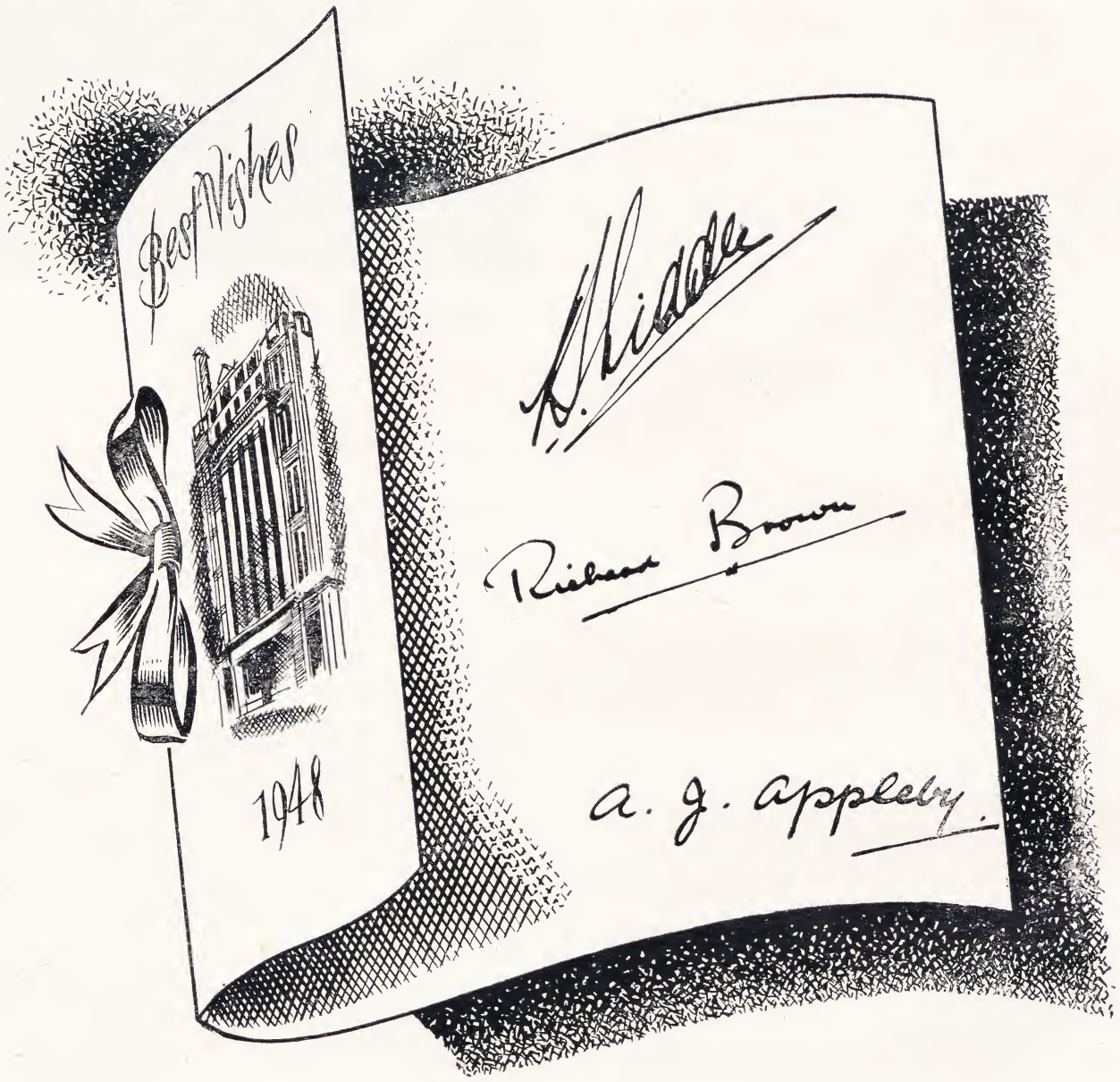
The company's theatrical organisation, Concanen Stage Plays, has presented its first independent production at the Playhouse, R. F. Delderfield's "All Over the Town."

In January de Marney will start on his second picture for J. Arthur Rank. With a working title of "Transcontinental," it gives him the first modern rôle since "Dangerous Moonlight."

After completion of this film he will return to independent producing and acting.

EEE

All good wishes for 1948



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LONDON FILMS AT SHEPPERTON & ISLEWORTH

Korda's Contribution to Company's Biggest-Ever Output

WITH two subjects in production and 13 more planned during 1948, the London Films-British Lion group promises to exceed even its 1947 record, when nine subjects were completed in circumstances of every conceivable difficulty.

On January 1 of this year there was nothing on the floor except "The Courtneys of Curzon Street," being made by Herbert Wilcox. The only other obvious activity was a unit in Italy shooting exteriors for the Edward Black production, "A Man About the House."

Calm Confidence

Behind the scenes, however, there was much activity. The studios at Shepperton and Isleworth were being reorganised. New buildings were being planned and erected. Directors and artists were being signed. Stories were being planned and written. Outside the organisation scepticism was rife. Inside it, there was calm confidence.

The results of all this intensive work are now beginning to be apparent. In ten months, no fewer than nine films have been completed, and two others put into active production, either by London Films itself or by associated companies using its facilities.

In these ten months have been completed: "The Courtneys of Curzon Street," "A Man About the House," "Mine Own Executioner," "An Ideal Husband," "Anna Karenina," "Night Beat," "The Shop at Sly Corner," "White Cradle Inn," "The Call of the Blood."

On the floor now are: "Bonnie Prince Charlie" and "The Lost Illusion."

Improved Facilities

If all this progress had been made in ten months under the best possible conditions it would not have been inconsiderable. Made amid all the reconstruction necessary to make the studios 100 per cent. efficient, it is claimed to be a matter for pardonable pride.

London Films during 1947 has done more than make films. It has introduced to the public, in Kieron Moore, an acknowledged screen discovery. It has also introduced Christine Norden, another potential star of the first magnitude. In Margaret Leighton, now playing Flora MacDonald in "Bonnie Prince Charlie," it is bringing to the screen for the first time one of the greatest actresses of the English stage. Sir Ralph Richardson has returned to the screen under the company's auspices in his greatest part, Count Karenin in "Anna Karenina," and Eileen Herlie, hailed as the greatest stage sensation of our generation, is about to repeat for the screen her stage success, "The Eagle Has Two Heads."

The band of producers and directors now gathered under the banner of the group is no less impressive: Herbert Wilcox, Carol Reed, Anthony Kimmins, Julien Duvivier, Leslie Arliss, Anthony Asquith, Anatole de Grunwald, Michael Powell, Emeric Pressburger, Orson Welles.

If all this has been accomplished in under 12 months, under the most adverse conditions, what can be done in the next 12? The only possible answer is: "Plenty!"

Since all the films to be made in 1948 by this group will be top-quality productions designed for the world market, London Films' Shepperton and Isleworth studios are facing a year of intensive and uninterrupted activity.

Planned for 1948

Preliminary work and casting on five subjects scheduled for production during the year have been completed and plans for the other eight are well advanced with most of the directors already settled.

One of the most important of the former will be Sir Alexander Korda's own production of "The Eagle Has Two Heads," in which Eileen Herlie will play her stage rôle in the record-making play. Kieron Moore will be co-starred. "The Winslow Boy," from a script of his own play by Terence Rattigan, will be produced by Anatole de Grunwald with Robert Donat starring, Anthony Asquith will direct. Cary Grant is to star in "The Devil's Delight," of which Alan Melville has written the script. Carol Reed will both produce and direct. Sir Ralph Richardson is to star in "Round the World in Eighty Days," based on the famous Jules Verne travel romance. Orson Welles is doing the script of the Rostand romantic play in which he will star, produce and direct.

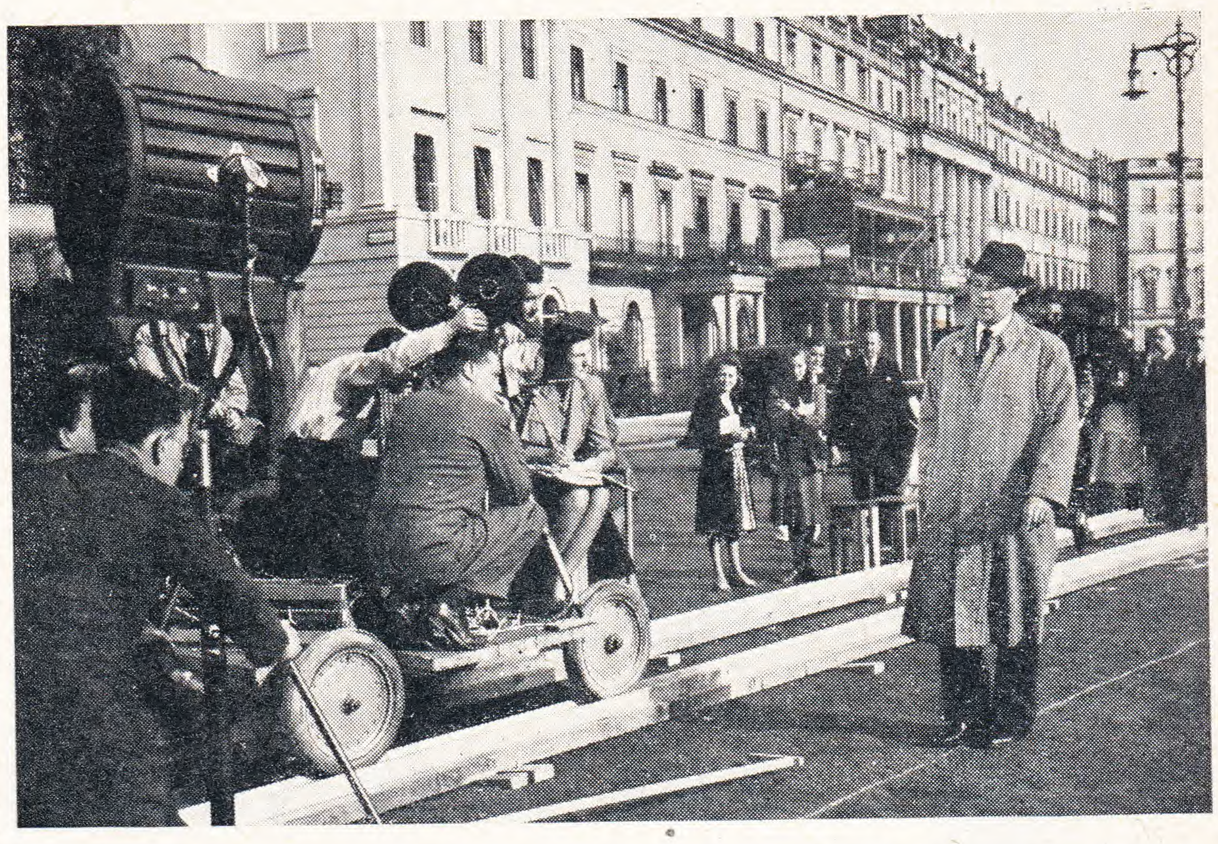
The Rattigan-Grunwald-Asquith team will be associated in another subject as yet untitled.

Donat to Produce

Robert Donat will produce a film, title, director and cast of which are not yet settled.

Frederick Lonsdale is scripting an, as yet, untitled story for Rex Harrison which Carol Reed will both produce and direct.

Two films will be directed by Leslie Arliss and Julien Duvivier has been assigned to another subject. The Michael Powell-Emeric Pressburger combination is doing a script which Powell will direct. Casting has not yet been settled of any of these pictures nor on that which Anthony Kimmins will produce and direct.



Toeing the line that keeps him in camera focus is Sir Ralph Richardson, who stars in THE LOST ILLUSION, which is being made at London Film Studios, Shepperton. Carol Reed, the director, and Peggie McClafferty, in charge of continuity, are on the camera trolley

FILM PRODUCERS' GUILD AT MERTON PARK

Experiment in Feature Field Will Influence Future Policy

PENDING the clarification of the situation, the Associates of the Film Producers' Guild are not, as a whole, engaged at this time in any active plans for making films solely for distribution in kinemas. There is a large industrial and educational programme lined up, and there are films in preparation for Government Departments through the C.O.I., and the Service Organisations. Meanwhile, however, plans are being discussed for the production of entertainment films.

Record Output

Sixty-seven films, an increase over last year, were made in 1946, which is an indication that increasing numbers of people are becoming conscious of the need for, and the power of, films in education, industry and propaganda in this country and overseas.

The year has witnessed some reorganisation, W. M. Larkins and Co., who are rapidly building an international reputation for their cartoons and animated film work, have joined the Guild and the Merton Park animation unit.

R. H. Riley, who directed the now famous "Steel," has been made responsible for the production of Verity Films, of which he has been appointed managing director. The Technique Film Unit, of which he was founder and producer, continues as part of the Verity organisation. Julian Wintle, producing for Verity, has made an outstanding film in "The Infantryman" for A.K.C. Several Green Park productions have won international recognition. "North-East Corner" obtained an award at Brussels and "String of Beads," documentary on the tea gardens in India, was shown at the Edinburgh festival.

The film on the "Grid," entitled "Prelude to Prosperity," produced by E. P. L. Pelly, has been completed and will be shown to many electrical and industrial undertakings.

Many more industrial and propaganda films are planned for 1948, and the Educational Film Unit, of Merton Park, has four more classroom educational films lined up for the British Electrical Development Association and two for the Ministry of Education, through the C.O.I. The first four in the series for the British Electrical Development Association have been very well received by teachers all over the country.

In the entertainment field, Frank Hoare has produced for G.-B.I. "Circus Boy," directed by Cecil Musk. This film has been very well received, as has also "The Secret Tunnel," directed by Bill Hammond.

Entertainment Films

Documentary and industrial film producers have long felt that they have been neglected by the entertainment side. There is an enormous potential for interesting and entertaining film production which has not been used. It seems probable that in 1948 there will be an increased demand for British films, especially as supporting programme. It is hoped that the short and specialised film producers will be encouraged to make films for commercial distribution.

As a matter of fact, the production of entertainment films is not being neglected and plans are well advanced for the production by Frank Hoare of a film which it is hoped to start early in the New Year. This will be the first of the films produced solely for entertainment purposes and future plans will be based on the state of the market and the experience gained as a result of this first production.

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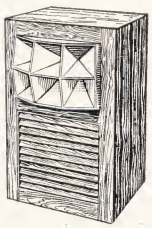

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ARGYLE BRITISH

Plans for Two Include Policy of Developing New Talent

TWO features are scheduled by Argyle British—"The Streets of London" and "Killarney."

The first is an action-packed melodrama, a combination of topical realism and romance. Stars and supporting cast are not named, but John Argyle intends to recruit several new discoveries from non-theatrical sources. Nearly one third of the film will be shot on night locations in many famous London streets with the aid of mobile generators.

The second subject, for summer production, "Killarney" is a musical drama inspired by the famous ballad, and based on an original story by John Dryden, which is guaranteed a wide American distribution.

Locations Spotted

Locations in Kerry and in County Cork have already been spotted by an advance production unit which spent a month touring the famous beauty spots.

The colourful story concerns the visit of a famous Irish-American singer to the land of his birth, of his fight against an adversity that threatens to silence his singing career, and his eventual triumph. Action scenes will include Irish gipsy life and the training of racehorses on the famous Curragh.

Simultaneously with the production of these subjects, Argyle will continue preparation of Robert Louis Stevenson's famous adventure story, "Kidnapped," which will be filmed directly production conditions permit in natural backgrounds on the west coast of Scotland.

M-G-M TO MAKE "YOUNG BESS" AT ELSTREE

The first M-G-M British picture to go on the floor at the company's own studios at Elstree is likely to be "Young Bess," production of which has tentatively been fixed to start in early Spring.

Based on Margaret Irwin's story of the early life of Queen Elizabeth, "Young Bess" will star Deborah Kerr and will be produced by Sidney Franklin.

As things stand at present, the second M-G-M British production will be "Secret Garden," the screen version of the popular novel by Frances Hodgson Burnett. Margaret O'Brien will star.

BARRALET PRODUCTIONS

A Balanced Programme of Diversified Entertainment

SINCE Paul Barralet Productions five years ago made its first actuality feature, "The Pinnacle of Fame," the company has produced more than 15 of these films, which have proved equally successful.

The success of this little production unit is based on long experience and the fact that expert technicians are engaged, who work with the true team spirit. Cameraman Lionel Wheeler has been with the company for two years and before the war was at Elstree, Denham and Pinewood. Production manager Peter Collin has served 12 years in the Industry and was previously with John Argyle and A.B.C. Script writer Granville Squiers and cutter Ivy Mulligan have both had years of experience in various branches of production. Paul Barralet pays special attention to schedules, which are planned with all the detail of a major production.

During the past year the unit has completed several interesting subjects, including "Passage to Bordeaux," "The Girl from Scotland Yard," the latter being made with full police co-operation. A new story, "Crime Dossier," which will show another aspect of police activity, is lined up for early production.

"Highland Story" (made in conjunction with Baze Productions), photographed in Radiantcolour, is nearing completion. The results have proved highly satisfactory, and a racing story will be filmed in colour next spring. Another novel subject nearing completion is "It Happens at Night"—an unusual study of London's night life. This was Peter Collin's first directorial assignment.

The shorts department has completed 12 two-reelers, including "Modelled in Mink," "Give Me a Ring," "Cats or Dogs," "Our Cousins," "Family Album." A new series of musical shorts is already in production.

"THE BLIND GODDESS"

Work is in progress at Islington Studios on Betty E. Box's fourth production, "The Blind Goddess," based on the play of the same name by Sir Patrick Hastings, K.C., starring Eric Portman, Hugh Williams, Anne Crawford and Michael Denison. Harold French is director-producer with Betty E. Box as executive producer.

Art Director Norman Arnold has based his design on the actual court room of the Lord Chief Justice.

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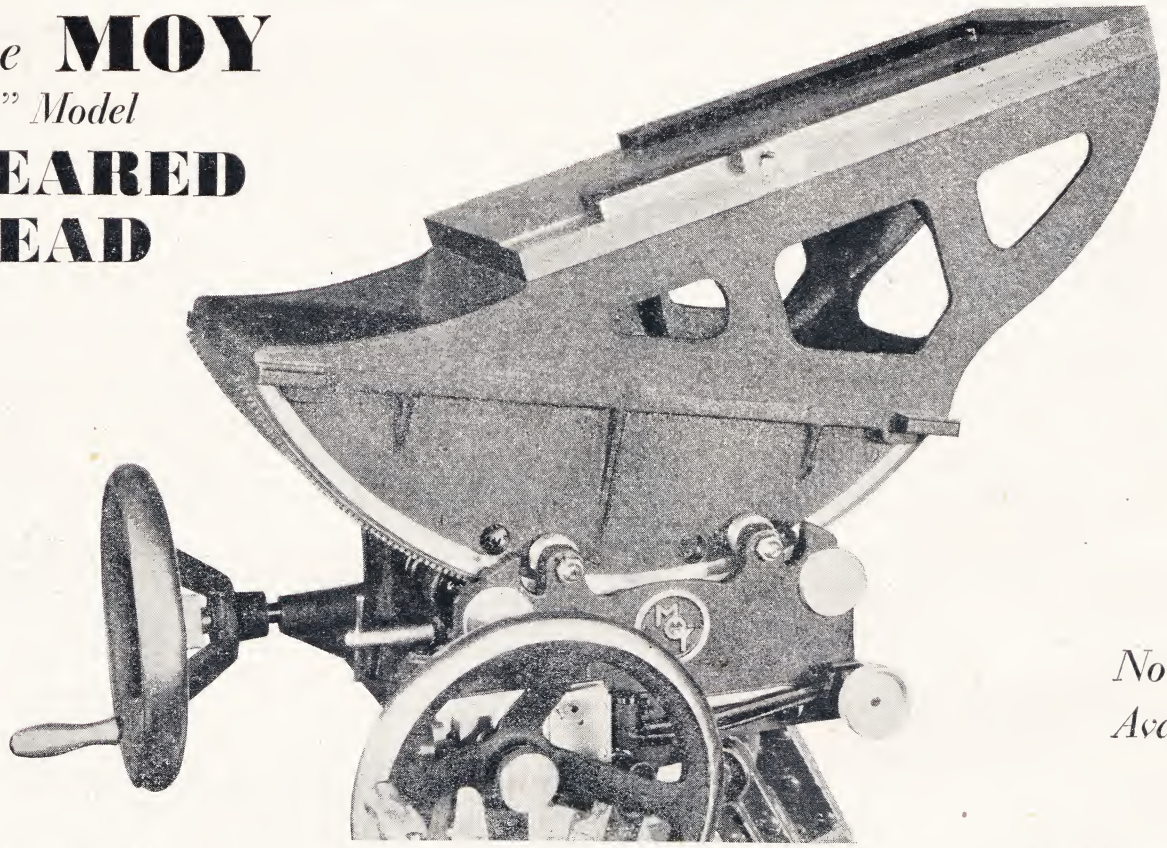

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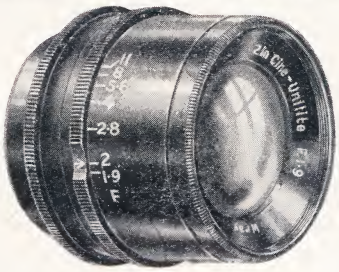

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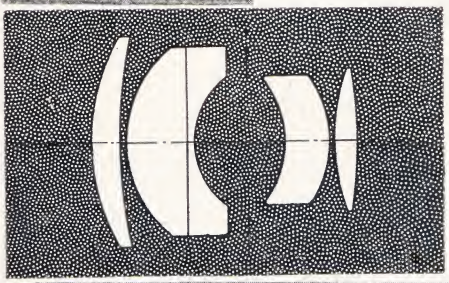

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GAINSBOROUGH SHEPHERD'S BUSH AND ISLINGTON

Sydney Box Aims at Target of More Than One-a-Month

PRODUCTION chief of Britain's busiest studios, Sydney Box is confident that 1948 will be a record year of achievements in producing a greater number of high-quality entertainment films than ever before, increasing the prestige of Britain's name abroad through the medium of the kinema—and in winning vital dollars and foreign credit by developing a major British industry.

As the New Year heralds what is planned to become Gainsborough's greatest year of achievement, Shepherd's Bush and Islington Studios have six films due for release and in the cutting-rooms, with six films on location or on the floor, and at least eight films scheduled for early production.

Sydney Box's "one-a-month" target is being exceeded.

In "Trek," now on location in the most adventurous film-making expedition of recent years, Gainsborough is again exploiting the news in filming this saga of the Cairo-to-Cape overlanders.

First of the Gainsborough films due for release in 1948 is "Daybreak," a psychological thriller, adapted from Monckton Hoffe's play, starring Ann Todd, Eric Portman, and Maxwell Reed.

Next on the release list comes producer Betty Box's first assignment from Islington, "When the Bough Breaks," a social drama on a post-war theme, starring Patricia Roc, Rosamund John, directed by Lawrence Huntington.

"Bush" Premieres

Three dramas from Shepherd's Bush Studios are next in turn for première dates.

"Broken Journey," the Alpine drama based on the Dakota crash of November, 1946, is directed by Kenneth Annakin. Roy Rich makes his first film-making debut as associate producer in this film, which stars Phyllis Calvert, Margot Grahame, James Donald, Francis L. Sullivan, and Raymond Huntley.

"Good Time Girl," the story of a juvenile delinquent, brings Jean Kent in her first big starring rôle, with Dennis Price, Flora Robson, Herbert Lom, Peter Glenville, Griffith Jones, and Bonar Colleano, directed by David MacDonald. Sam Goldwyn, Jun., is associate producer.

"Snowbound" is a post-war thriller centred on a mysterious mountain ski-hunt. Produced by Aubrey Baring, the film is directed by David MacDonald and photographed by Stephen Dade. The cast is headed by Robert Newton, Dennis Price, Stanley Holloway, Herbert Lom, Guy Middleton and Marcel Dalio, and introduces the Continental stage and screen star Mila Parely.

Mermaid Comedy

From Islington Studios comes another Betty Box production. "Miranda," a light, sparkling comedy about a mermaid who comes to town. Stars of the film are Googie Withers, Glynis Johns, John McCallum, and Griffith Jones. Kenneth Annakin is the director.

Six more Gainsborough films are either in the cutting-rooms, on the floor, or on location.

At Shepherd's Bush, Antony Darnborough is making his debut as producer with "The Calendar," a screen adaptation on comedy lines of Edgar Wallace's classic racing drama. Directed by Arthur Crabtree, the film stars John McCallum and Greta Gynt, with Sonia Holm, Raymond Lovell and Leslie Dwyer.

A comedy-drama about football-pool winners in four episodes. "Easy Money," traces the adventures of four people, each of whom wins a fortune in the "pools." Director is Bernard Knowles, with Frank Bundy producing. Stars of a large cast are Greta Gynt, Dennis Price and Jack Warner.

On the floor simultaneously at Shepherd's Bush are "The Bad Lord Byron" and "Double Pursuit." Based on the life of Britain's celebrated poet-adventurer, "The Bad Lord Byron" is a spectacular romantic drama starring Dennis Price. With producer Aubrey Baring and director David MacDonald, who took the film on to the floor, Dennis Price spent six weeks shooting exteriors in Italy, mostly in Venice.

"Double Pursuit" stars Jack Warner and John McCallum, with Kathleen Harrison, Peter Hammond, Jane Hylton, Susan Shaw, and Diana Dors. Antony Darnborough is producing at Shepherd's Bush.

At Islington, Harold French is producing and directing a legal drama, "The Blind Goddess," adapted from the play by Sir Patrick Hastings, with Betty E. Box as executive producer. Eric Portman and Anne Crawford co-star with Hugh Williams and Michael Dennison.

Two in Technicolor

Among the films planned for 1948 production is "Christopher Columbus," to be filmed in Technicolor. Academy Award winner Fredric March has been signed to play the name part.

Gainsborough's other Technicolor film, already scheduled for 1948 production, is a screen adaptation of best-selling novelist Anthony Thorne's mystery drama, "So Long at the Fair," set in the bustle of Paris at the time of the Great Exhibition in the 1880's. Jean Simmons has been cast in the starring rôle.

Gainsborough's new screen family, planned to carry on the realistic comedy line of "Holiday Camp," will be launched during 1948 in a series of three full-length adventures with a strong vein of comedy. Heads of the family will be Jack Warner and Kathleen Harrison.

Also planned for 1948 production are "Journey into Yesterday," a story of displaced persons, for which Mai Zetterling is cast.

There will be a warm infusion of humour in the Gainsborough 1948 programme. A typical example is MIRANDA, starring Googie Withers, Griffith Jones, Glynis Johns, John McCallum and Sonia Holm, from which this scene is taken

COLUMBIA AT NETTLEFOLD

New Subject Chosen to Follow "The First Gentleman"

THE first fruit of the Columbia deal with the Nettlefold studios is the completion of "The First Gentleman," based on Norman Ginsbury's record stage hit, which is described as the biggest British picture yet made by the company.

"The First Gentleman," made under the guidance of Jos. Friedman, Columbia's managing director, was recently completed by Cavalcanti on a three months' schedule. It will be presented early in the New Year.

A brilliant cast of 23 players, headed by Jean Pierre Aumont, Cecil Parker and Joan Hopkins, also comprises Margaretta Scott, Ronald Squire, Athene Seyler, Jack Livesey, Lydia Sherwood, and Frances Waring.

With the Prince Regent as its central character, its gay, colourful and ornate Regency canvas and its skilful blending of a whole variety of popular ingredients—drama, romance, boisterous comedy, spectacular action—the picture is said to attain exceptionally high standards in its production, acting and entertainment values.

The theme of the film is the warm, deeply moving love story of the Regent's daughter, the high-spirited, ill-starred Princess Charlotte, and the penniless young Prince Leopold of Saxe-Coburg.

Many of the scenes were shot against the actual historic backgrounds associated with the Prince Regent.

A second British production now being prepared for Columbia is "The Chasm," an adaptation of Victor Canning's action novel, screen rights of which were secured by Mr. Friedman a year ago while still in proof form.

The story deals with a British ex-soldier marooned by a broken bridge in an Italian mountain village. He recognises an English traitor, believed killed in Germany, and intends to denounce him, the traitor to murder him. Until the bridge is replaced neither can act. A four-sided tragedy develops, involving the Englishman, a peasant girl and her tough local husband, and the traitor, and leads to a dramatic climax.

Production details will shortly be finalised by Columbia.

BOULTINGS TO MAKE "THE GUINEA PIG"

ONLY one subject has been definitely decided upon by the Boulting Brothers for production in 1948. This is the film version of Warren Cheltham-Strode's West End hit play, "The Guinea Pig."

Further productions in 1948 are as yet insufficiently crystallised for any further announcement. It can be stated, however, that two famous novelists—Graham Greene and J. L. Hodson—are working on original screen stories which will be incorporated into the programme.

Adapted by actor-writer Bernard Miles and the author, the shooting script of "The Guinea Pig" has just been completed by Roy Boulting.

Richard Attenborough, the Boultings' contract star, will play the principal role of Jack Read, Cockney son of a tradesman who is accepted into a public school as an experiment.

John Boulting is to produce, with twin brother Roy directing. The film will be made at M-G-M studios, Elstree, with the first shot scheduled for January 26. After completion of studio work, location at Sherborne School, Dorset, is planned.

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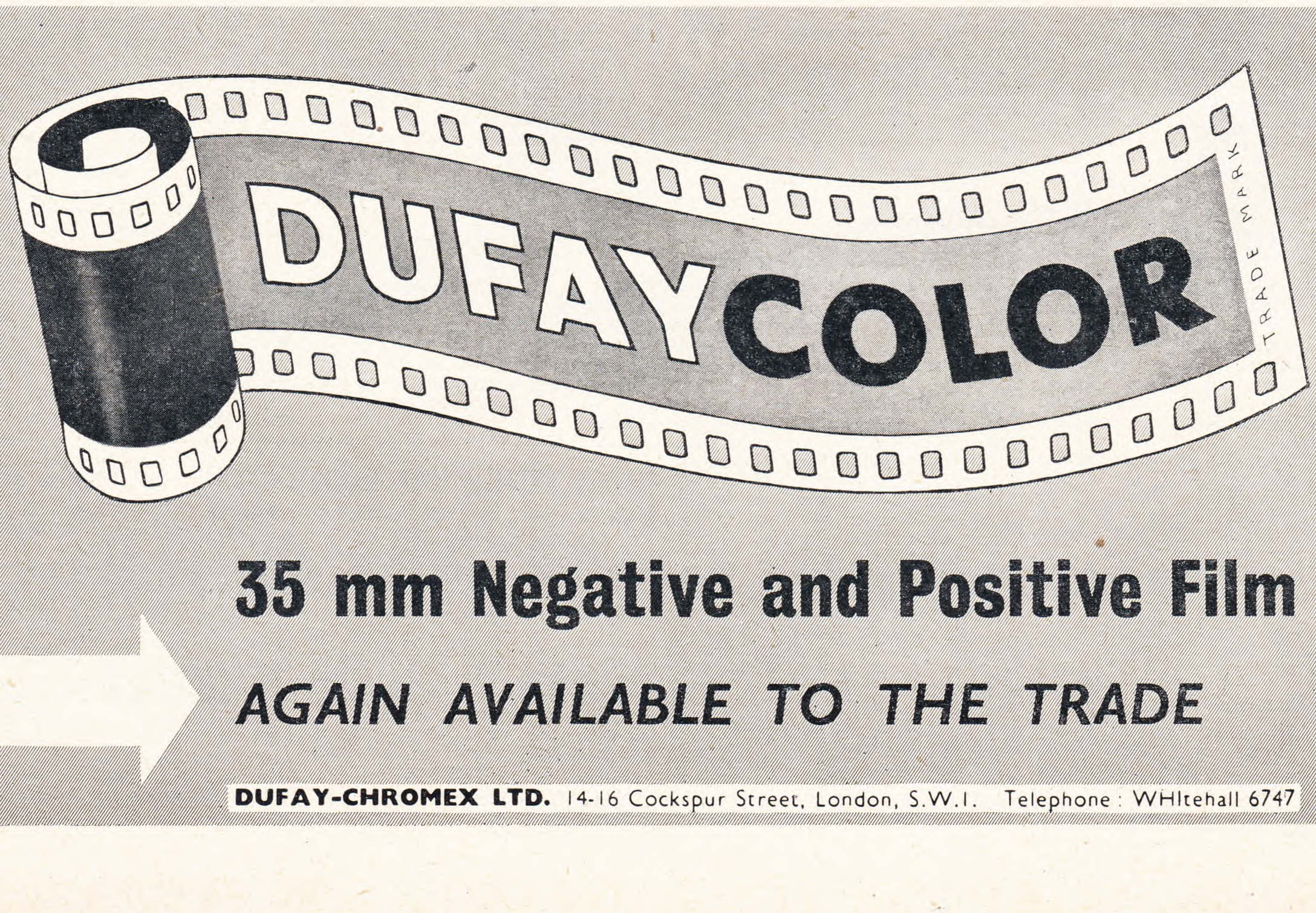

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MORE FILMS FROM SPECIALIST MAKERS?

Merton Park is Ready for Feature Production

ONE desirable effect of the current Trade position and the Quota Act may well be that specialised film producers will find it a commercial proposition to make films mainly for kinema presentation. Should this happen, film patrons of this country will have an opportunity to enjoy the work of the many technicians which, at present, is mainly appreciated in kinemas abroad.

An example of this potential for production is that Merton Park Studios are fully equipped and staffed for the production of every kind of entertainment film except perhaps the super-feature films which demand more than one large stage at a time. The Studios will be able to handle even these when present plans for extension have been carried out.

All costumes for the Two Cities production VICE VERSA were supplied by M. Berman. Here is Roger Livesey "dressed to kill" in the leading role

Cost of Artists' Clothes May Be Cut in New Year

IT is a tribute to the organisation of M. Berman, the film costumiers, that, having started practically from scratch after the war, the company has concluded a year's operation with having supplied costumes for over 24 films.

Owing to the complete absence of the staff on war service, and bomb damage to the premises, it was not until 20 months ago that reorganisation was possible. Since then the various essential workrooms have been re-established and a large millinery department opened which, together with the firm's shirt-wear and men's and women's period and modern stock departments, ensures that every conceivable item, irrespective of period, can be supplied.

During the year, some hundreds of principals' and thousands of crowd costumes have been executed. Indeed, during July and August, Berman's were actually costuming some 12 productions, comprising: "Anna Karenina," "Idol of Paris," "So Evil My Love," "Snowbound," "Ideal Husband," "Closed Carriage," "Colonel Bogey," "Eureka Stockade," "Saraband for Dead Lovers," "Frozen Falls," "Brighton Rock" and "Bond Street."

As a contributor to the essential economic drive, Berman's is considering a material reduction in price on all articles supplied.

ALLIANCE PLANS TWELVE

Three to Start Next Month

NEXT year's output from the Alliance Studios, which in 1947 completed eight films, is expected to show a 50 per cent. increase next year.

The three studios—Riverside, Twickenham and Southall, which have been closed for essential extensions and repairs—will reopen early in the New Year. First subjects to take the floor will be "Poor Man's Miracle" (Riverside), "She Cracked Her Glass Slipper" (Southall, moving later to Twickenham), and "William Goes To Town" (Southall). From then on full production is planned throughout the year.

Meanwhile, five Alliance films are ready for release early in the New Year.

The first to be seen will be James Carter's production, "Just William's Luck," directed by Val Guest, starring William Graham and the Brown family, comprising Garry Marsh, Jane Welsh, Hugh Cross, Kathleen Stuart. It will be released by U.A. on December 19.

"Daughter of Darkness," a thriller, handled by Paramount, co-stars Anne Crawford and Maxwell Reed. Lance Comfort directed.

"Things Happen at Night," a comedy, stars Gordon Harker, Alfred Drayton and Robertson Hare. Francis Searle directed.

Jack La Rue, Hugh McDermott, Linden Travers, and Walter Crisham are featured in "No Orchids for Miss Blandish." St. John L. Clowes directed. It will be released by Renown.

"The Brass Monkey," which stars Carroll Levis and Carole Landis, was directed by Thornton Freeland for U.A. release.

The above subjects with the three already shown represent more than one-seventh of the total British output for 1947. This is a great record for Alliance, whose total of 31,375 square feet on four stages is less than one-twentieth of the floor space in British studios.

There's More in Colour than Meets the Eye

B.K.S. STUDIES PRINCIPLES OF ADDITIVE AND SUBTRACTIVE METHODS

THE basic principles of colour formed the subject of a talk accompanied by a number of demonstrations given at a B.K.S. Theatre Division meeting by W. D. Wright, A.R.C.S., D.Sc., Ph.D., of the Imperial College of Science. The demonstrations showed strikingly the ways in which colour could be produced by additive and subtractive methods.

Dr. Wright started his talk by defining light as a form of radiant energy of an electro-magnetic nature, of the same type as radio waves, but of much shorter wavelength, and consequently higher frequency. White light covers the whole gamut of frequencies, and is equivalent to playing all the notes of a piano at once; but while the ear would perceive this as an objectionable noise the eye integrates the sensations into a single sensation of white light.

Breaking White Light

The speaker demonstrated by means of a spectroscope how white light could be broken up into the colours of the spectrum. In the white beam of a lantern he displayed the colours of a number of pieces of coloured glass, and then, by inserting these into the beam of the spectroscope, he explained how the effect of a filter was to remove certain components of white light from the beam. He showed how a magenta filter cut out the green, a blue cut out the red except for a narrow band, while green cut out the blue-violet and much of the red. Yellow cut out blue and violet.

In the same way, the result of adding filters together was shown. Blue and yellow filters together produced green. Such a mixture of dyes is referred to as subtraction, because the resultant colour is what is left after the various absorbed components have been subtracted from the white.

Frequency Reception

The fact that the eye can distinguish between different parts of the spectrum proves that it has the power of distinguishing different frequencies. The eye consists of a lens and a retina, which latter comprises over 100,000,000 individual light-sensitive receptors. A photo-chemical reaction causes nerve currents to be transmitted to the brain. Just how these nerve impulses differ for different colours is not fully understood, but it seems likely that there are three different types of receptors in the retina, sensitive respectively to red, green and blue light. The colour seen will depend on the relative activity of the various receptors; if all are equally active, we have a sensation of whiteness.

The experimental proof of this is, said Dr. Wright, to be found in the additive mixture of colours. This was demonstrated by means of three lanterns, showing, respectively, blue, green and red light; when superimposed on a screen, the image, by adjustment of the relative intensities of the beams, could be made practically white.

In most colour systems, a subtractive mixture is used. In Technicolor there are three absorbing layers, yellow, blue-green and magenta, which are superimposed in register, and the colour is controlled by the varying intensities of these layers.

Certain Errors in Dyes

The dyes should ideally have selective characteristics such that the yellow would absorb only blue, the magenta only green, and the blue-green only red. Dr. Wright demonstrated this point by inserting filters of the three colours into the beams of three lanterns of the three additive primaries, which together produced a white image; each subtractive colour eliminated one of the three beams, the resultant colour being the mixture of the remaining two.

In practice, certain errors inherent in the dyes prevented perfect colour rendering being obtained. The curve of the yellow dye is nearly ideal, but the magenta absorbs also the blue and slightly in the red.

But colour involves much more than physics and physiology, asserted Dr. Wright; it has its psychological aspects. When we look at a coloured object we have conjured up in our minds an idea of what the colour should be, and we have ideas of colour harmony. The attributes of a surface also affect our interpretation of what we see. The reproduction, say, of a greasy surface, will depend not only on the colour but on the lighting and definition. Colour contrast will produce subtle changes in the appearance of coloured objects.

Kinema Conditions Differ

The observation conditions in a kinema are different from those outdoors or in a room. A final demonstration showed how the adaptation of the eye affects apparent colour; a square of bright yellow material was illuminated by white light; at the other side of the stage was a brightly lit red surface, and on staring at the latter for a few seconds the yellow material appeared to have changed almost to green.

LAMPS CAUSE HEAT PROBLEM FOR "CHARLIE"

Because of the intense heat caused by Technicolor lamps in the confined space of Stage 1 at Worton Hall, scenes for the Holyrood Palace corridor and reception doors sequence in the British Lion Technicolor production of "Bonnie Prince Charlie" were shot with studio doors wide open. The unusual job of operating the lamps in these difficult circumstances was successfully dealt with by George Doble and his electrical staff.

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MULTIPLE INDUSTRIES' RECORD YEAR

THE Hewitt Universal group of factories has been responsible during the past year for turning out a most varied description of new designs. By having within the group foundry, sheet-metal works and plating organisation, it has been possible to produce new prototypes and produce much more easily and quickly than would otherwise be possible.

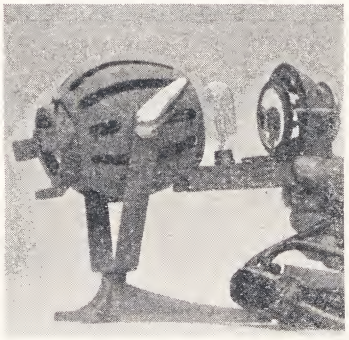
In addition to the standard Streamline 500, 2- and 5-kw., for which there is an ever-increasing demand, a 100-w. is now a good selling line. A 200-w. on similar lines is being tooled for production and the 5-kw. compact source is now in steady production in the shops.

A new spider box from 1 to 6-way is in production, which is earthed to conform with Home Office regulations. A new plug has been developed which is also earthed and carries visible fuses. Patents have been applied for for these new innovations.

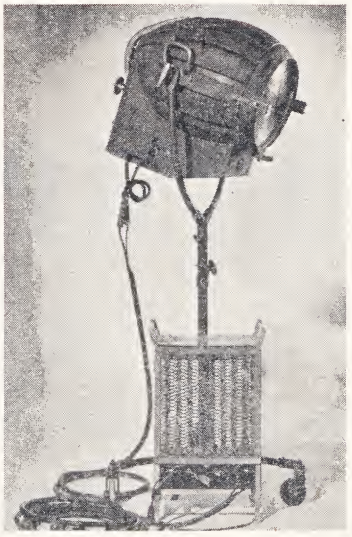
A portable microphone boom which straps on a man's shoulders has been developed and has filled a long-felt want in the studios, judging by the number of inquiries and orders received. An overhead boom has been developed which carries a 500-w. Streamline lamp and fits on to a standard "Hewitt Universal" winch-type stand.

Various dimmers of different types have been developed and supplied, and many other lines are being developed in the experimental departments of the Universal gear works and at Leysfield Engineering. Four studios have been completely equipped during the past year, two of these being abroad, and substantial orders are in hand.

Multiple HD Industries, the sales organisation for the Hewitt Universal group, has supplied from January to the middle of November this year 17,198 items of equipment and accessories and looks forward to increased sales at home and overseas.



The new "Hewitt Universal" 100 watt standard Streamline spotlight



The 5 kw compact source spotlight, now being tooled for production by Hewitt Universal

Carlton Hill Studios Redesigned and Refitted on Modern Lines

POST-WAR developments at Kay's Carlton Hill Studios are expressly designed to aid the independent producer.

The studios which were formerly extensively used for Ministry of Information and Service production have since been re-equipped and modernised.

New lighting was installed by Multiple Industries, the cutting rooms were completely re-equipped, and the carpenter's and paint shops, the camera and dark rooms were remodelled and enlarged.

An RCA P.M. 45 sound channel was put in on the floor and an RCA four-way dubbing system installed in the pre-view theatre, which was specially enlarged for the purpose. Diesel-driven generators were secured and made mobile to cope with any "juice" failures or power cuts and also for use on location.

Maurice Wilson, of Grand National, was the first to use the modernised studios with "The Turners of Prospect Road." This was followed by a succession of second features with schedules varying from three to eight weeks.

Among the films which have been produced at Carlton Hill during 1947 were Mario Zampi's "Phantom Shot," starring John Stuart and Olga Lindo, and Columbia's "Alive to Tell," two films by Condor Films, "Eyes That Kill" and "A Gunman Has Escaped," directed by Richard Grey, and Random Films' "Journey Ahead," directed by Peter Mills.

"Comin' Thru' the Rye," the story of Robert Burns, has been directed by Walter Mycroft, and "Jim the Penman" has been completed by Frank Chiswell Productions.

On December 10 Nettlefold Productions started "The Monkey's Paw," with Norman Lee directing, which is still in production.

While offering feature producers all the advantages that bigger studios can offer, Carlton Hill aims to cater equally well for documentary film producers, and the army of film makers who work for Government departments and educational authorities.

Assistance in dubbing, commentary recording, re-recording for 16-mm. versions, and floor space have all been provided for a large number of independent producers engaged on the production of both long and short films of all descriptions.

Kay's has entered the film strip field. At Carlton Hill it can now claim an unrivalled service for the film strip maker, with separate departments covering research, scripting, photography, art work, retouching, negative processing and printing, boxing and, finally, labelling—all at economic cost.

Carlton Hill's studio manager is Robert King, who is backed by a large staff of technicians.

Continued in column 3

BLAKELEY HAS TWO LINED-UP

THE first year of operation of John E. Blakeley's "Film Studios" at Manchester has been a particularly busy period. Two subjects have been practically completed and another two are scheduled for production during the first six months of 1948.

Sandy Powell is featured in a typical comedy subject, "Cup-tie Honeymoon," in which he is supported by Dan Young, Betty Jumel, Pat McGrath, Violet Farebrother, Joyanne Bracewell.

In "Holidays With Pay," Frank Randle and Tessie O'Shea are co-starred, and the cast also includes Dan Young, Josef Locke, Sally Barnes, Sonny Burke and Joyanne Bracewell.

In preparation are "My Wife's Birthday," which goes on the floor at Manchester on March 29, and "The Girl in the High School," which starts on May 16.

Both stories are by Anthony Toner and screen adaptation by Harry Jackson.

The idea of the story of "My Wife's Birthday" is a domestic comedy centred on the members of a golf club and the high school story, of course, is a love story of a high school girl whose ambition in life is for the stage only.

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The Focus Is On LABOUR

There are now 7,618 people employed in the operating British studios, 1,728 being technicians, 4,186 constructional, and 1,704 in clerical and other grades. The two leading unions—ACT and NATKE—will hold their annual meetings next month. Those meetings will shape the future of British production: that's why this article was written.

By P. G. BAKER

TWO years ago the KINE. presented the first series of authoritative surveys on the British studio rehabilitation programme. One year ago we reviewed the post-war balance of power, the executive set-up of our studios. In July we analysed the rising trend in production costs, and last October presented the definitive picture of the 1947 production crisis. Three months ago the KINE. provided the first complete dossier on the last ten years' work in British studios.

This is the latest issue of KINE. STUDIO. Writing in it recently, Sir Henry French, director general of the BFPA, said: "British film production is faced at the moment with many difficulties and uncertainties. But one thing is certain, namely, that the interests of both workers and employers are vitally bound up with the success of British pictures at home and abroad, as well as with the expansion and increased output of the industry."

But what are the interests of the workers? Events in recent months have proved that all is not well on the labour front. But much constructive work has been achieved, more remains to be done. That is why this month the KINE. turns the spotlight on labour.

As I write, two feature films are held up by something remarkably like strike action. The technicians want more pay.

As I write, four studios are dark. In all, there are ten sound stages totalling 80,125 sq. ft. out of action. That's about one-sixth of our total number of studios, one-seventh of the total stage area. The producers say they want money, too.

But it would be foolish to assume that every trade dispute is about more money, that stages are dark because of inadequate financial resources. There's more to it than that.

Vital Decisions

In three weeks' time ACT will hold its annual conference. A week later NATKE's studio council will hold its annual meeting. Both unions will have a lot to discuss and vital decisions to make—very vital decisions.

Let's face the facts: the unions must choose either to fall in line with the broad outlines of production policy set out by the BFPA and by the President of the Board of Trade or to go their own way, risking friction and non-compromise.

To understand the labour problem one must understand how the present upheaval began.

During the war years many British studios were put out of action and more than half the technical and constructional force drafted into the Services. The influence of the war created a team spirit—labour and management worked as a team.

Since 1945, however, that harmony has been upset by a number of things.

The union men found that the higher cost of living was too great for their pay packet. The film men, in line with millions of employees all over the country, wanted to "make a go" of the five-day week. A section of union thought took a more acute interest in politics than it had done before—it wanted a State-owned studio system.

The producers, on the other hand, found costs of materials shooting beyond the two and three hundred per cent. mark. The general stage shortage was a contributory factor: but, more than this, British films had been aimed at world markets for the past three years—and the world markets were not so easy to win. Producers just *had* to economise or go out of business.

And in the background to this was the nation's dollar crisis, followed by the Dalton bombshell—the 300 per cent. *ad valorem* duty on imported films, which was destined to restrict even further the prospects of expanding British production.

Anthony Asquith (seated) president of the Association of Cine Technicians, directing a scene for THE WINSLOW BOY, now in its tenth week at Shepperton

"A Political Issue"

That was the background. This is what happened:—

In April, 1945, the ACT made its position clear. J. D. Chambers, Data unit member, was quoted in the KINE. saying: "They (referring to the Rank Organisation) are afraid of Government control because it may be a Left Wing Government. We are dealing with a political issue." He said that it was a disgrace that the CEA should have an 80 per cent. membership of its political fund while ACT had only a 20 per cent. membership.

Since then, the ACT has shown itself more and more politically biased. Eight weeks ago the conservative *Times* accused the union of being strongly influenced by members of the Communist Party. Secretary George Elvin made this comment to me:

"I know we have a number of Communists on our general council—so have other trade unions. It's up to our members who put them in power."

That's the crux. ACT has about 6,500 members. Many of them earn a living in the features side of the industry; but it is the membership of the smaller specialised units which shows the greatest enthusiasm at annual conferences. In fact, the tail is wagging the dog.

Perhaps that explains some of the drastic action taken by the union in recent months. In the summer of 1945 the union put a ban on all overtime to force its agreement with the Laboratory Association. In 1946 the union dislocated the whole of Wardour Street with its strike among KRS employees, designed as a recruiting campaign. It lost, was reprimanded by the TUC, and has subsequently had to give over ground to the NATKE.

No Week-end Work

In pressing for a new agreement with the BFPA, which came into operation six months ago, ACT won a five-day, 44-hour week for the features side of the industry. But the union has refused all week-end work, unless members consider it necessary. Three weeks ago a "work-to-rule" memo went out from Soho Square to Shepperton.

And this last week, ACT started strike action to force the Association of Short Film Producers to accept the feature pay terms of the new BFPA agreement.

The studio section of NATKE has twice the membership of the technicians' union. Through the Film Industry Employees' Council, in association with the ETU and the artists' and musicians' unions it has collaborated on new deal approaches both to the Government and BFPA.

But NATKE has its disturbing influences, creating minor troubles which have seldom received official support from general secretary Tom O'Brien. In January, 1946, the union threatened a Denham strike because four clerks refused to join the ranks. In 1947 Tom O'Brien cleared up an all-industry unofficial strike of plasterers, who were asking for 4d. an hour pay increases. Union men struck at Shepperton in April last year because the studio employed an American hairdresser. That was a special subject for an agreement with the BFPA.

And it was a typical example of the points about which producers

Continued on page iv

THE FOCUS IS ON LABOUR

Continued from page iii

complain. Producers argue that the enthusiasm is not there as it was in the old days.

But it was the October production crisis and the coming of the new Films Bill which really brought the whole problem of labour into fine focus.

The Crisis

We all know the causes—rising costs, shorter working hours, the famous interim production loss reported to the City by the Rank group, and the falling box-office under the Hollywood ban on new film shipments. But it was the producer-union reaction which created the real crisis.

Ralph Bond, an ACT general council man, had accused producers of wastage and inefficiency back at the annual meeting in April. Producers replied, Michael Balcon putting the point of view like this: "One of the causes of increased cost is the continuing demand for higher wages by ACT members and others without there being an accompanying increase in output."

Six months later the unions were given a new deal—a five-day week and more pay.

Union men had told the Government back in 1945 that the studios should have a target of 200 films per year. In 1947 there were 58 features completed in the studios.

By crisis week (the last in October, 1947) there were 14 sound stages of 148,032 sq. ft. out of action. A month later the unions called a mass meeting under the banner of the Film Industry Employees' Council to re-enforce demands made to the Board of Trade for a policy of State intervention, joint production committees and a Films Bank.

Nationalisation Talk

The unions made it clear that they wanted the production industry nationalised.

Ralph Bond also made this clear: "The greatest contribution we can make is expanding production. Output could be doubled with existing personnel and equipment. . . ."

At this stage the Government acted: but not quite in the way the unions expected.

But the producers do not wholly escape criticism for turning the rowing team into a tug-of-war.

Immediately after the end of the hostilities the unions asked for a complete training scheme for the production industry, the setting up of a joint production advisory council, and for a new all-in agreement. There is still no training scheme in operation, and it took three years to set up a joint production council. That does not compare well with any other British industry.

Studio works committees have not always been able to stop disputes, often caused when production executives fail to explain to the men on the job just why a thing is being done—or why it isn't. Some producers are wasteful, very wasteful, and others are inefficient. But not all of them.

Men like Wilcox, Balcon, Neame, through their own efficiency, have maintained the goodwill and output of the unit around them. They have shown the unions production at its best.

But films are made by men on the job.

The crisis achieved three main things:

It gave the unions a guarantee of a high-level production council, with the assurance of a more vigorous Government interest in the industry.

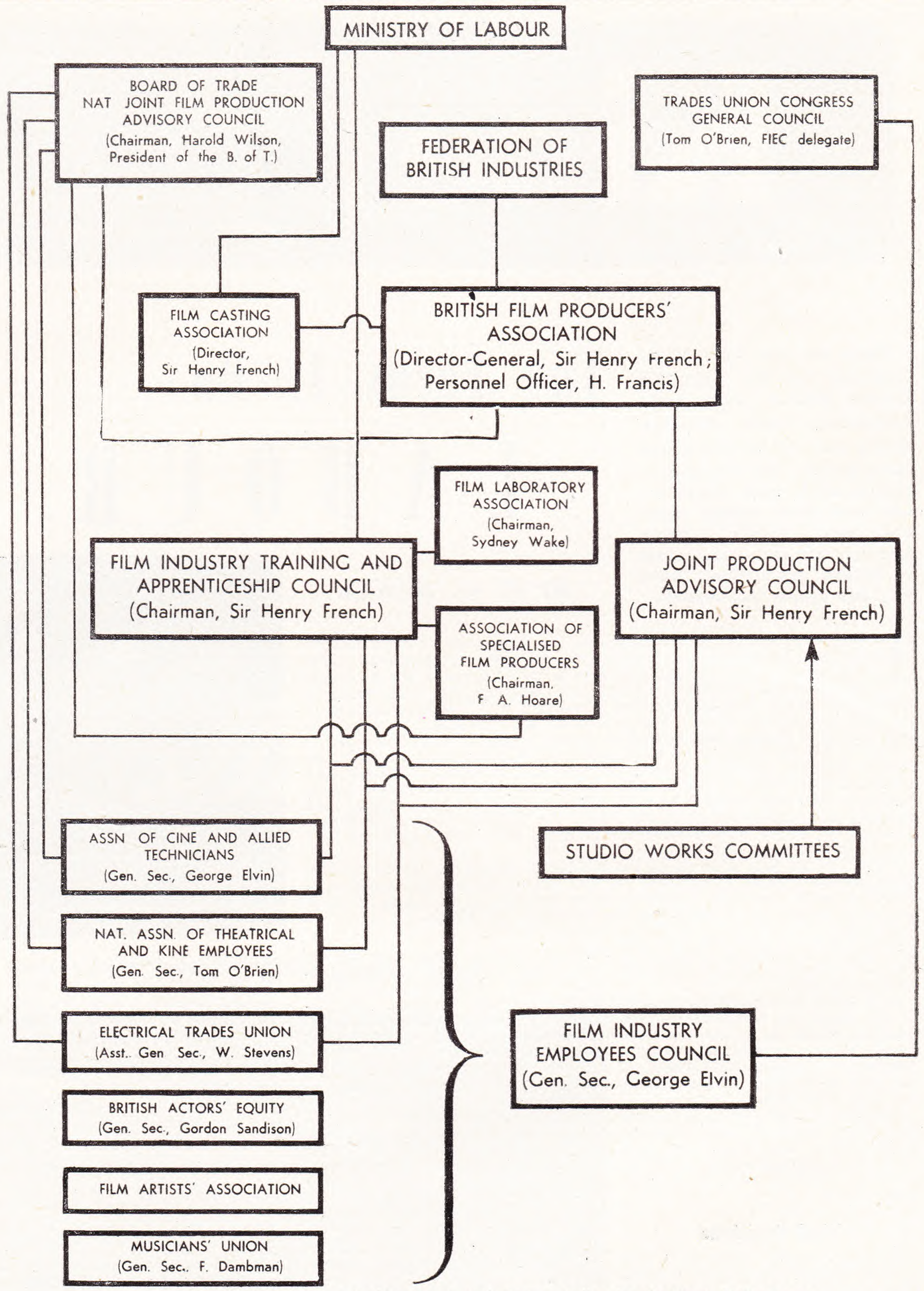
It provided the producers with an assurance that the Government does not intend to nationalise film-making, but that through the new Films Act and the National Joint Production Advisory Council it will back any joint producer-union plans for increased output.

And it convinced the Board of Trade, more than any union or producer memorandum had done, that all was not well with production. The industry won Government support—not Government control.

Now is the time to do some stock-taking. What have we in the store-cupboard, and how should we use our resources in the future?

The latest revisions coming into the KINE. studio research department this week show that in all

Continued on page xvii



British studios now have a complete framework for co-ordination between Government departments, producer and union organisations. The intricate council and committee system, illustrated in this diagram, provides the basis of trouble-free progress on the labour front

OPERATING BRITISH STUDIOS—THEIR SPACE, PERSONNEL AND PRODUCTION RECORD

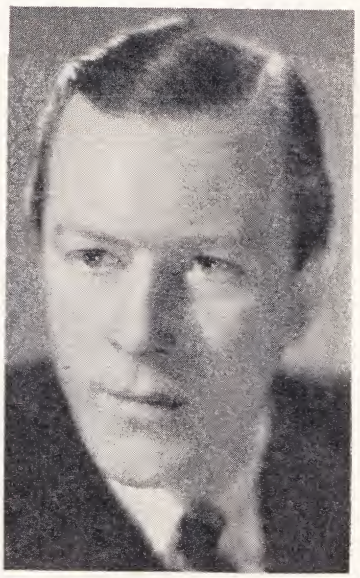
STUDIO.	NO. OF STAGES.	SIZE OF STAGES.	STUDIO SERVICE STAFF: TECHNICIANS.	CONSTRUCT'N.	CLERICAL.	TOTAL.	FILMS MADE: 1937	1940	1947	1937-47 GR. TOTAL
BEACONSFIELD ...	1	115 ft. × 55 ft. **Total : 6,325 sq. ft.**	Used by Crown Film Unit				9	—	—	**N.A.**
BRITISH NATIONAL	4	C & D = 80 ft. × 112 ft. = 8,960 sq. ft. B = 36 ft. × 61 ft. = 2,196 sq. ft. E = 80 ft. × 168 ft. = 13,440 sq. ft. **Total : 33,556 sq. ft.**	111	238	47	**396**	2	4	5	**56**
BUSHEY		60 ft. × 40 ft. **Total : 2,400 sq. ft.**	20	16	8	**44**	N.A.	—	1	**N.A.**
DENHAM	7	(1), (2) & (3) 116 ft. × 77 ft. = 8,932 sq. ft. (4) & (5) 244 ft. × 114 ft. = 27,816 sq. ft. (6) 113 ft. × 115 ft. = 12,995 sq. ft. (7) 129 ft. × 115 ft. = 14,825 sq. ft. **Total : 110,248 sq. ft.** Stage 1 is temporary recording theatre.	295	610	295	**1,200**	15	8	9	**110**
EALING	5	(1) 58 ft. × 34 ft. = 1,972 sq. ft. (2) 126 ft. × 76 ft. = 9,576 sq. ft. (3A) 85 ft. × 71 ft. = 6,035 sq. ft. (3B) 85 ft. × 71 ft. = 6,035 sq. ft. Model stage, 79 ft. × 61 ft. = 4,819 sq. ft. **Total : 28,437 sq. ft.**	152	226	150	**528**	2		3	**61**
GATE (ELSTREE) ...	2	125 ft. × 90 ft. = 11,150 sq. ft. 60 ft. × 40 ft. = 2,400 sq. ft. **Total : 13,550 sq. ft.**	46	103	9	**158**	N.A.	D	D	**N.A.**
HIGHBURY	2	113 ft. × 60 ft. = 6,780 sq. ft. 60 ft. × 30 ft. = 1,800 sq. ft. **Total : 8,580 sq. ft.**	60	75	10	**145**	5	2	—	**N.A.**
ISLEWORTH	3	(1) 127 ft. × 83 ft. = 10,541 sq. ft. (2) 127 ft. × 42 ft. = 5,334 sq. ft. (3) 96 ft. × 44 ft. = 4,224 sq. ft. **Total : 20,099 sq. ft.**	16	201	96	**313**	N.A.	4	2	**12**
ISLINGTON	5	(1) 92 ft. × 63 ft. = 5,796 sq. ft. (2) 96 ft. × 46 ft. = 4,416 sq. ft. **Total : 10,212 sq. ft.**	51	165	14	**230**	6	D	3	**33**
MANCHESTER ...	2	(1) 100 ft. × 55 ft. widening to 80 ft. = 6,750 sq. ft. approx. (2) 50 ft. × 40 ft. = 2,000 sq. ft. **Total : 8,750 sq. ft.**	9	14	5	**28**	—	—	1	**1**
MARYLEBONE ...	2	50 ft. × 23 ft. = 1,150 sq. ft. 50 ft. × 23 ft. = 1,150 sq. ft. **Total : 2,300 sq. ft.**	11	9	3	**23**	N.A.	D	1	**N.A.**
MERTON PARK ...	2	(1) 72 ft. × 66 ft. = 4,752 sq. ft. (2) (L-shaped) 42 ft. × 17 ft. with 18 ft. × 17 ft. annexe = 1,020 sq. ft. **Total : 5,772 sq. ft.**	57 62*	39 —	33 42*	**129** **104***	Short and special'sd films			
M-G-M-BRITISH ...	5	A (1) 11,520 sq. ft. C (4) 11,520 sq. ft. (2) 7,100 sq. ft. (5) 7,100 sq. ft. B (3) 18,820 sq. ft. D (6) & (7) Under construction **Total : 56,060 sq. ft.**	96	257	238	**591**	D	D	3	**3**
NETTLEFOLD ...	3	(1) 88 ft. × 52 ft. = 4,576 sq. ft. (2) 100 ft. × 85 ft. = 8,500 sq. ft. (3) 120 ft. × 65 ft. = 7,800 sq. ft. **Total : 20,876 sq. ft.**	126†	120†	10†	**256†**	6	8	4	**41**
PINEWOOD	5	(1), (2) & (3) 165 ft. × 110 ft. = 18,150 sq. ft. (4) & (5) 110 ft. × 82 ft. = 9,020 sq. ft. **Total : 72,490 sq. ft.**	110	741	90	**941**	17	D	7	**46**
RIVERSIDE	2	(1) 105 ft. × 75 ft. = 7,875 sq. ft. (2) 80 ft. × 60 ft. = 4,800 sq. ft. **Total : 12,675 sq. ft.**	25‡	50‡	100‡	**175‡**	N.A.	D	3	**20**
SHEPHERD'S BUSH	5	(2) 85 ft. × 40 ft. = 3,400 sq. ft. (3) 115 ft. × 55 ft. = 6,325 sq. ft. (4) 120 ft. × 85 ft. = 10,300 sq. ft. (5) 85 ft. × 71 ft. = 5,235 sq. ft. (6) 85 ft. × 65 ft. = 5,525 sq. ft. **Total : 30,785 sq. ft.**	208	357	213	**778**	D	8	7	**45**
SHEPPERTON	4	(1) & (2) 150 ft. × 120 ft. = 18,000 sq. ft. (3) & (4) 100 ft. × 120 ft. = 12,000 sq. ft. **Total : 60,000 sq. ft.** Recording stage : 100 ft. × 90 ft. = 9,000 sq. ft.	213	644	368	**1,225**	29	5	5	**45**
SOUTHALL	1	125 ft. × 60 ft. = 7,500 sq. ft.	30‡	42‡	15‡	**87‡**	—	—	3	**3**
TEDDINGTON ...	2	(1) 126 ft. × 70 ft. = 8,820 sq. ft. (2) 135 ft. × 85 ft. = 11,475 sq. ft. (3) To be built with tank 135 ft. × 100 ft. = 13,500 sq. ft. **Present total : 20,295 sq. ft.** Final total : 33,795 sq. ft.	41	189	33	**263**	19	3	—	**67**
TWICKENHAM ...	1	140 ft. × 80 ft. = 11,200 sq. ft.	35‡	90‡	30‡	**155‡**	N.A.	4	2	**N.A.**
WELWYN	3	(1) 59 ft. × 39 ft. = 2,301 sq. ft. (2) 82 ft. × 53 ft. = 5,246 sq. ft. (3) 99 ft. × 79 ft. = 7,821 sq. ft. **Total : 15,368 sq. ft.**	36	170	38	**244**	9	3	2	**58**
WINDSOR (CURSITOR ST.)	3	(1) 56 ft. × 25 ft. (annexe, 14 ft. × 14 ft.) = 1,496 sq. ft. (2) 28 ft. × 27 ft. = 756 sq. ft. (3) 27 ft. × 20 ft. = 540 sq. ft. **Total : 2,792 sq. ft.**	8	12	2	**22**	Studio built 1947			—

* Staff at Guild House † Figures fluctuate according to service needs of producers. ‡ Figures for 1946 : revision impossible until production starts again.
D = Stages dark; or not in use for commercial feature work. N.A. = Not Available.

SCREENWRITERS WANT THIS WRONG PUT RIGHT . . .

Their Request for Official Recognition

IN all this talk of the need for stepping-up British film production there is one section of the industry whose views are seldom consulted—the screenwriters themselves. Yet, just as you cannot build bricks without straw, so you cannot build a modern film without writers, and the Screenwriters' Association, although perhaps the newest of all the industry's various trading and professional associations, is zealously guarding the interests of the professional scenario men. To-day, in this exclusive article, Jack Whittingham, one of the association's officials, tells the inside story of the argument that has been going on behind the scenes—of the scriptwriters' quest for official recognition.



by JACK WHITTINGHAM

Whittingham, former Fleet Street reporter and film critic, has spent many years in the film business. He is now, among other things, honorary vice-secretary of the Screenwriters' Association.

His own credits involve more than a dozen front-line British pictures.

IF, in building a cathedral, you are limited by time and expense, it would seem reasonable to brief the architect. Surely the same thing should apply in films?

If film production is to be speeded up and made more economical, there is surely an equally good case for co-opting the writer. Like the architect, he is the author of the blueprint.

The SWA, which represents an overwhelming majority of feature writers, believes—if no one else does—that by efficient planning at the script stage, writers can help to save costs and to increase production; this, without lowering quality.

WE are willing and anxious to do our utmost. To this end we have offered our services to the B of T as participators on the Joint Advisory Committee. Our application has been turned down.

The planners do not require our services.

On December 2, 1947, we wrote to the B of T:—

"The attention of this Association has been drawn to reports in the Press that the Government has decided to form a Joint Production Advisory Committee to devise more efficient methods of using floor space and talent available for British film production.

"In view of the fact that we have represented screenwriters for the past 14 years, we should like formally to apply for representation on this council.

"We sincerely believe that, as screenwriters responsible for the blueprint, i.e., the script, on which all other phases of production depend, we are in a unique position to make an important contribution to the work of any planning committee."

AFTER 105 days, we received the answer:—

". . . After carefully considering the question of the allocation of seats on this Council, the President has now come to the conclusion that this must correspond with the allocation which has been agreed between the producers and the studio workers' trade unions for the purpose of the Joint Advisory Committee which has been set up by the industry itself. On this basis, the unions to be represented on the National Council are NATKE, ACT and ETU.

"The President does not feel able to revise this decision, which necessarily excludes the representation on the Council of your Association and of the other organisations in the industry whose members do not form part of the studios' permanent full-time staffs."

Less officially and with regret, it was explained in a letter from a high-up at the B of T to one of our members that screenwriters would again have to be excluded on the ground that "like the actors, the crowd artists and the musicians, who also have their own organisations—their members do not form part of the studios' permanent full-time staffs."

THE fact that the majority of us are not on the studios' permanent full-time staff, but are more than often seven-day-week workers in our own homes, with no extra pay for overtime, might be used as an argument for closing the shop to us, but should not be a reason for excluding us from the family party.

During the 14 (presumably five-day) weeks in which we were awaiting a reply from the B of T, a general meeting was called to discuss certain preliminary proposals of our own for increasing production.

SPEAKING out of turn, but with the utmost goodwill, and no apology, the following was resolved:—

(*a*) Support by screenwriters of measures aimed at reducing studio time, provided that they did not lead to a reduction in artistic quality, could only be achieved by drastic simplification of all technical effects, in which every department should be expected to co-operate. Screenwriters should pay close attention to the simplification of scripts, such as by the elimination of unnecessary shots and playing scenes. Screenwriters should collaborate with other creative film workers, such as art directors, cameramen, and others, in framing plans which could be put forward to production organisations.

(*b*) In order to save shooting time, no film should go on to the floor until a full shooting script has been prepared by the writer, director, editor, art editor and cameraman, working in conjunction.

(*c*) Screenwriters should collaborate with and support as fellow workers the other employee organisations in all measures calculated to increase production, and that they should contact other organisations to arrange joint discussions to this end.

(*d*) SWA should support all measures calculated to increase technical efficiency and invention, provided these do not jeopardise conditions of employment and the artistry of the result; and do all in its power to ensure that screenwriters be made acquainted with technical developments affecting the writing of scripts, such as Independent Frame, and any other methods tending towards speed and economy in production.

(*e*) SWA should encourage Government measures designed to increase production, to secure international markets, and to reduce the element of monopoly. In view of the fact that this may lead to expenditure of public funds, any Government support of an art or a means of expression should not involve control of the creator and his work; that, on the contrary, it should be aimed to increase the freedom of the creator to create and of the public to choose. These are not incompatibles, as is proved by the example of quasi-Governmental encouragement in certain fields of the other arts.

(*f*) SWA as a body should offer its services in an advisory capacity to the Film Bank or any other Government organisation which may be set up to promote independent production in the selection of stories suitable for production.

PS by a Member Who Asks "What Frightens Hollywood?"

AS the first member of the British Screenwriters' Association to take advantage of the reciprocal membership scheme with the Hollywood Screenwriters' Guild, I should not complain. But a letter sent to me by the Screenwriters' Guild should be taken as a grave warning for the entire British film industry (to which I will return end of the year) in so far as its contents clearly contain the voice of a depressing dictatorship, resting over the entire American film industry.

I am not biting the hand that feeds me, but clearly and objectively pointing out that freedom of ideas on the screen (as long as they are not detrimental to the mental and moral outlook of the nation) is the only thing which will make the box-office tinkle.

Suppression of original and topical themes only represents the fear of producers.

Communism is just a silly excuse for this game; otherwise, why should William Wyler have committed himself by admitting that it would have been impossible to make a superb film like "Best Years of Our Lives" to-day?

Also, Zanuck admits that he would never have risked making "Gentleman's Agreement" nowadays. The same goes for "Crossfire." "Boomerang." No tinge of Communism there.

Then what is Hollywood afraid of?

PAUL KUTTNER.
454, N. Vista Street,
Los Angeles, 36

[*The letter sent out by the Guild refers to the recent probe into Hollywood Communists. It is dated February* 19 *and sets out considerable background information to the court hearing. The SWG strongly opposes the producer decision to discriminate in employment against a member who may be called a Communist, and the SWG, as a result, appointed a leading American lawyer to defend its interests.*—EDITOR.]

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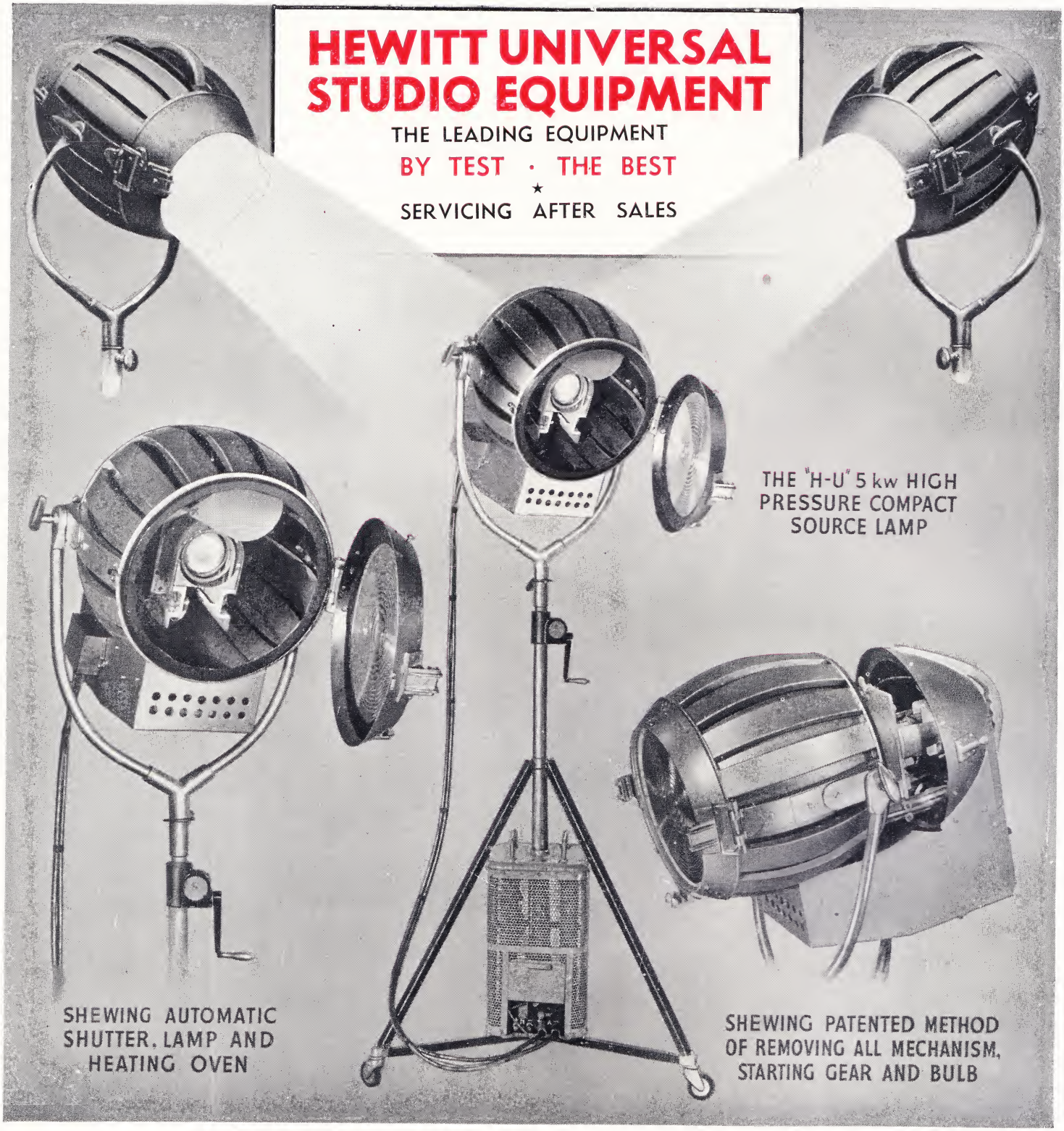

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IN THE STUDIOS AND ON LOCATION

These Are the Things I Saw and Heard

by HARRY WHITE.
"Kine." Special Correspondent

ALTHOUGH there is a great deal of talk about unemployment among studio technical staff it is amazing the number of opportunities that exist for promotion and advancement—to the right man.

Wherever I go these days I hear of people tackling important jobs for the first time and making a good job of it, too. One instance which I cannot believe is peculiar to any single studio was brought to my notice last week at Welwyn.

Instead of finding Gus Drisse at the camera I saw Val Stewart "rolling 'em." "Val," I said, "how come?"

"We've had a lot of casualties on the camera crew," he explained in his choice Glasgow accent, "and the last one meant my jumping up from 2nd to 1st operator. Gus was injured playing football. He'll probably be away until after Easter. John Harris, clappers, and Bobby Breen, first loader, have also had a spell of bad luck."

The film is "The Queen of Spades." It's an Associated British-Anatole de Grunwald subject which Thorold Dickinson is directing, and I'm told that its the most lavish to be made at the Garden studios.

A Big Job Done Well

Val's found the job big—but not too big for him. Brushing away that huge lock of hair from his forehead — couldn't resist that crack as I'm always being ragged about my mop—he said he'd had a tricky time since he took over from Gus. "Tricky" is just the word, because on the large opera house set there's been a basinful of shooting miniatures in perspective.

Back-stage talk at Welwyn has it that Val's done (and is doing) a splendid job.

That opera-house set intrigued me. It consists of a full-size facade, foyer, entrance stairs and lobby in 18th-century Russian style.

Oliver Messel designed it and William Kellner, art director, put it into practical shape. "I have never found anyone like William to work with—it's a good team," was Oliver's verdict. He explained that he picked up the main idea of the motif for the foyer in an opera house in Lisbon. The number of drawings he had to make?—countless.

"Lie to the Camera"

On my notebook he sketched out a broad outline of his methods in evolving a design of these proportions. The numerous cross-camera angles, perspective shots and miniatures mean that he has to produce dozens of drawings for one particular piece.

Then it was William Kellner's turn. He took me over the set and explained in detail intricate angles which, with the use of the miniature pieces in perspective, involved in the creation of a screen illusion of spaciousness. "You lie to the camera," was his summing-up twist to the popular cliche, "the camera never lies."

Asked him whether he found any particular difficulties in putting up a set of this size in a studio of the dimensions of Welwyn. In his opinion, it's just a question of adaptation. And he's proved it can be done.

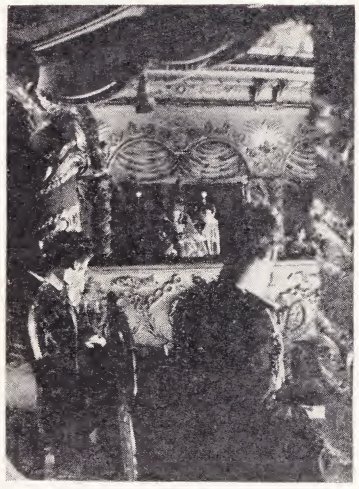
An Unlucky Start

What with the camera crew casualties, a change in director—Thorold took over only a few weeks ago—and make-up troubles with Dame Edith Evans, "The Queen of Spades" unit has had several unlucky breaks. But, at just over half-time, it is well on schedule.

The make-up difficulties were explained to me by Bob Clark. Edith Evans has to appear as a wizened old lady. It means her wearing thick plastic coating over tightly drawn face wrinkles all the time she's in front of the cameras. This has affected her—she's allergic to the materials used.

Costume pieces bring forth a crop of problems these days, according to Bob. Wigs are hard to get and costly—the hair, apparently, came from Czechoslovakia and it's not easy to obtain nowadays. So making up a character at short notice is something of a feat.

He had a quick job on Wednesday night. Miles Malleson was added to the cast, and by the next morning he had to have him on the set as a miserly old Russian. "We had to scrounge around for suitable hair, and in the end had to rip up a complete wig. Of course, it will be of no more use," he commented.



On the other hand, the plasterers and modellers are having a heyday with this period picture. Under master modeller E. S. Tanner all the department is hard at it turning out intricate replicas of 18th-century Russian architecture. There's Henri Lejeune, for instance, "one of the finest craftsmen there is," according to Tanner, putting the finishing touches to a delicate plaque.

One of Tanner's "finds," Maurice Eyington, an ex-prisoner of war, is tackling his first major modelling job since his release. It looks as though Maurice will have a big future in this business—his sphinx for the opera house has brought wide praise from all quarters.

The BLUE LAGOON unit takes final location shots in the Fiji Islands; Fred Morris, camera dept., standing; Parry Jones, assistant director, sitting; Jimmy Newsome, props; Jean Simmons, Donald Houston, Frank Launder, behind; George Blackler, make-up; George Minassian, Technicolor assistant, and Arthur Ibbetson, operator. Studio work starts at Pinewood in two weeks' time

A TRICKY BUSINESS

Thorold Dickinson, directing THE QUEEN OF SPADES at Welwyn, checks over the focus with Val Stewart, who has taken over the job of No. 1 operator on a feature for the first time during the absence of Gus Drisse. Probably the biggest production to be tackled at Welwyn Studios, THE QUEEN OF SPADES has called for elaborate sets. This section of an 18th-century Russian opera house was shot with miniatures in perspective

AT GAINSBOROUGH

An Achievement in Casting

TO those—and my experience is that there is a fairly large number—who regard Government departments and trade unions as facility-obstructing organisations, I commend a half an hour at Gainsborough's casting offices. They'll hear of countless instances proving just how wrong they've been.

Ask Binnie Horinsky—one of Weston Drury, Jun.'s assistants—to tell you about her casting "troubles" for "Portrait of Hildegarde." The script calls for a small army of real German speakers—not the perfect German, but the language as it is spoken by people who would be found in displaced persons' camps. On the face of it, a none too easy task. But Binnie wasn't at all concerned.

Equity, she'll tell you, is always very helpful when it comes to employing an extra—even a foreigner—who does not hold a card. That goes for the Ministry of Labour, too. In this case a permit is necessary, but apparently

Continued on page xi

Norman Lee directing "The Monkey's Paw" at Kay Carlton Hill Studios.

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IN THE STUDIOS AND ON LOCATION—continued

Fisher's First Job as a Director

a telephone call to the department will do the trick.

Only casual labour was involved, but I am assured that this helpful attitude is common with all requests. Only once, in Binnie's time, was there any difficulty in fixing up permission for an alien to work in a film.

With all the complaints you hear about trade union obstructionism in studios, it's interesting to bear in mind that there's a first-class service working the other way round.

Mention of "Portrait of Hildegarde" reminds me that this is Terry Fisher's first hand at direction. On the Bush sets last week he wasn't troubled in the slightest over this (to him) brand new departure. Terry's taken everything in his stride. Has been off schedule only once—and that was so fractional that it couldn't matter less—has met up with no headaches or problems that a spot of common-sense didn't solve, and is finding the job of director "the goods."

Fear of Forms?

He seemed a little reluctant to say why, but he feels a bit concerned over forthcoming location shots at disused Army camps. Wonder if Army Forms are at the back of his mind?

Incidentally, the script of "Hildegarde" took a spot of working out. There's no pidgin-English with the German dialogue and all sequences calling for a turn in action in the displaced persons' camp have been timed for scenes with interpreters.

Camera operator Len Harris was "turning them" on a particular instance last week. It was a montage sequence of a parade of women. Jack Asher, lighting cameraman, was re-vamping the set-up for a quick succession of interviews conducted by Quaker relief worker Patrick Holt.

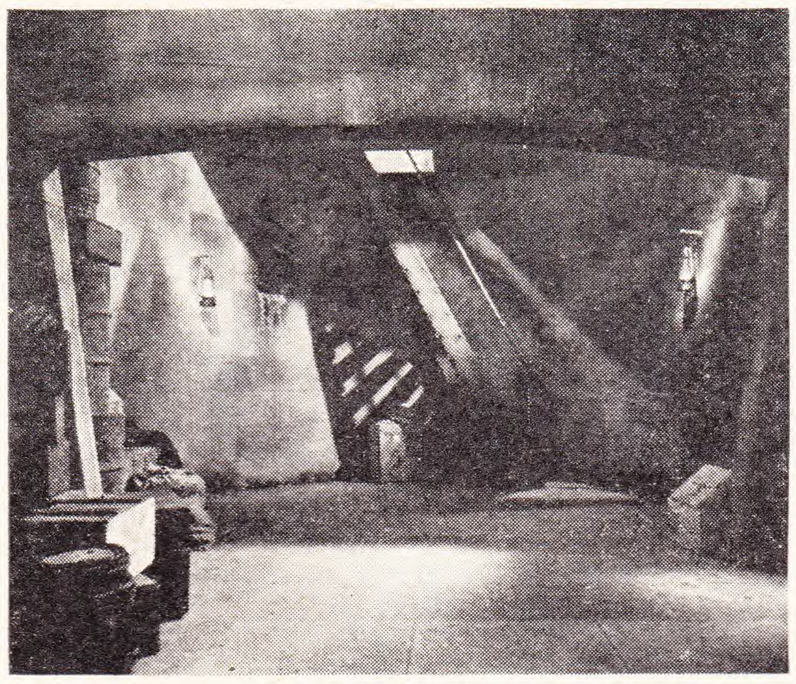
Back stage at the Bush last week there was plenty of excitement—a "Columbus" unit was due to leave in a few days for the West Indies. Had an interesting chat with Cyril Knowles, who has the lighting assignment, and was he looking forward to the job!

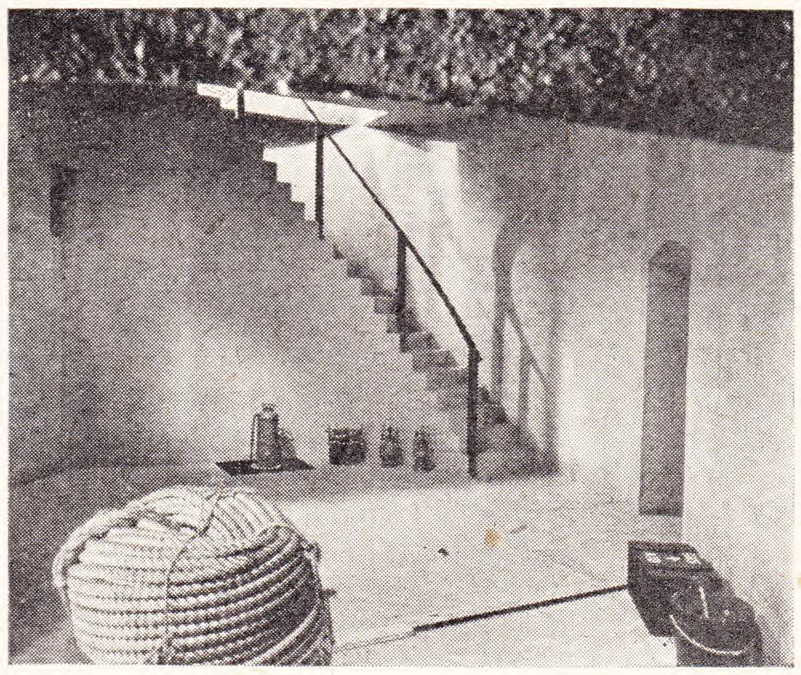
Shooting Afloat

Cyril's party is an advance guard. With him he is taking Dave Harcourt, Reg Johnson and John Allcott from the Gainsborough studios, and Ron Cross, Ray Parslow and John Tullock from Technicolor. The rest of the large unit moves off next month and should be back by the end of June.

Two Technicolor cameras and crews are being used on this job which, I understand, is one of the most elaborate to be tackled by Gainsborough.

Cyril's been studying conditions "out there." He's wondering what foundations there are to the story that there's a deal of sea mist over the coastline. If it turns out to be correct, he'll have a few knotty problems, because a large proportion of his work is to be taken from specially built boats.





"Choosing sets which can be easily—and speedily—re-vamped, is one of the key factors of production in a smaller studio," says Marylebone's Henry Halstead. This lighthouse basement was rebuilt as a section of the spiral staircase in just over two days

BARTON THRILLER AT MARYLEBONE

An Example of a Small Studio's Efficiency and Adaptability in the Heart of London

WHY is it that mention of London's "inner ring" of small studios usually draws a question mark from some of our leading technicians? I decided to hunt for an explanation at Marylebone last week—but, seriously, I couldn't cook up one that would hold water.

Instead, I spent two or three hours packed with interest at the way everything can be done in miniature. The second of the Dick Barton series, "Dick Barton versus the Ray of Death," was on the floor for Marylebone-Hammer Productions. It will be an Exclusive release.

Henry Halstead, who is in charge of the production, gave me a clue to the secret of small-stage shooting. It's the choice of sets which can be easily and quickly re-vamped for another scene.

Good example was provided by a lighthouse sequence before the cameras. Earlier, this interior was a basement or dungeon or whatever lighthouses have downstairs, but last week it became a section of a spiral staircase.

The reconstruction—including allowing time for the thick plaster stairs to set—was achieved in 2½ days. All this time, the unit was at work on another setpiece. Here, Marylebone scores because it has another miniature stage in the loft.

Henry is almost a past-master at putting films into production in smaller studios. He's been in charge of Marylebone for years, during which time he's handled "Death in High Heels." "The Wasted Years" and the first Dick Barton film When the current production is in the can, he'll have two more Dick Barton adventures lined-up.

Stock trouble raised its ugly head at Marylebone recently. A whole day's shooting with stunt men and star Don Stannard had to be re-taken when it was found that the entire take was fogged. It put the unit out of gear on its schedule, but it soon caught up.

As a matter of fact, the only trace of the incident in the studio last week were the bruises on Don Stannard's hips—he had to take a double dose of violent crashes on the lighthouse stairs.

It's interesting to note that the production unit at Marylebone is usually the same. The Dick Barton film is being directed by Godfrey Grayson—whose twin brother Ambrose, wrote the screenplay from the original Frank Rennie script.

Other "regulars" at Marylebone are Stanley Clinton, director of photography, Eric Veendam, production manager; Prudence Sykes, continuity; Teddy Edwards, make-up; and James Marchant, art director.

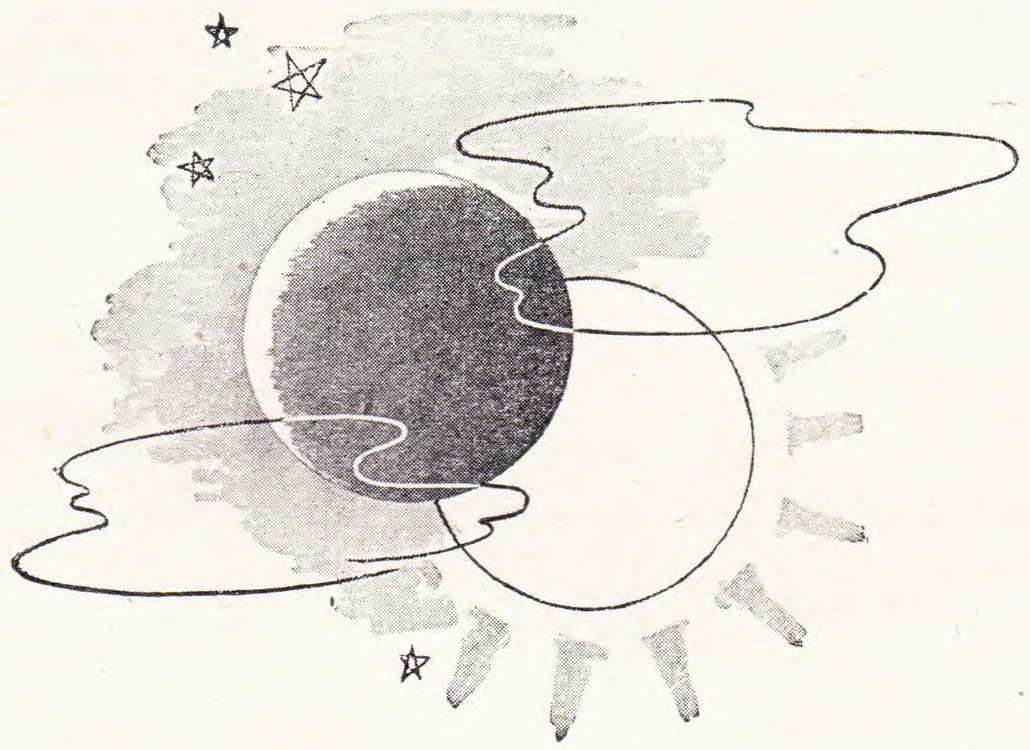
On the set at Viking Studios. First shots in the can for the Tempean-Grand National musical, DATE WITH A DREAM. Left to right: Jean Carson, leading lady, Robert S. Baker, producer, Shirley Barnes, continuity, Monty Berman, associate, Dicky Leeman, director, Peter Newbrook, camera operator John Lyons, focus, and Ann Leonard, assist. continuity

CHARLIE PEACE CRIMES AS "FICTION" FEATURE

John Argyle is planning the production of a first feature film based on the life of Charles Peace, the famous master criminal of the last century. A screen play has been written by Norman Lee, author-director, and negotiations are proceeding with a leading actor for the name part. A strong supporting cast will be assured.

Production will start in May. Studio and distribution arrangements are being finalised. The working title for the picture is "The Crimes of Charlie Peace."

KAY'S



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IN THE STUDIOS AND ON LOCATION

Asquith's Happy Trouble-Free Unit at Shepperton

IT'S happened. I've visited a studio where, to resurrect a good old Army phrase, there are "no complaints." Not one minor tick.

And the authority for this epoch-making revelation? None other than E. (Teddy) Baird, associate producer to Anatole de Grunwald on "The Winslow Boy" at Shepperton. Had a long heart-to-heart chat with Teddy on subjects ranging from the funeral of the *ad valorem* tax to petrol coupons. It's like a good tonic to hear someone—who, after all, is in a position to know—come out with emphatic denials of any obstructions as far as the physical side of production is concerned.

Labour? No troubles or setbacks. Technical gear? All that is wanted—in other words, sufficient to do the job. Stock? Only one small instance of poor quality. That tax? It wouldn't have affected International Screenplays' programme if it had remained. Now that it's dead it's just history.

And here's Teddy's first-hand tribute to all those connected with the administration of Shepperton. "It's a happy and efficient studio," he says.

Wilcox Ready for the Off

With these words ringing in my ears, I wondered why the production executives hadn't made up their minds what to put on the floor when "Winslow Boy" finishes in May. Herbert Wilcox, I hear, is due to start a film at Shepperton after Easter—incidentally, he and Anna Neagle are living in the studio's own "hotel" for the job—but of London Films itself there is, as yet, no hard and fast schedule.

On the set of "The Winslow Boy" it's the easiest thing in the world to pick out director Anthony Asquith. All you have to do is to lower your head to five inches off the ground—and the owner of the trouser tops you can't see is Anthony. Yes, he's still wearing that "New Look" boiler suit.

Reminded him that the last time we met was in '36 (or was it '37?) at one of those highly enjoyable ACT annual dances at the Astoria. He hasn't changed a bit. Even that youngish-excitement is still to the fore.

Lighting Cameraman

This time it's all over the fact that he's managed to get lighting cameraman Freddie Young in his team. Lightning should be the word. I've never seen anyone move so quickly and silently—without a trace of fuss—about the set.

Anthony is godparent to a junior Young. "I've always wanted Freddie to work with me," he said, "but whether we'll be able to team up again depends on the powers that be."

Composite sets have always intrigued me. The one at Shepperton—a complete interior of the Winslow house at Wimbledon—is one of the most compact I have seen, and Freddie gave me some interesting sidelights on the technical job of camera angles. He's got little elbow room to play with, but to him "it's all in a day's work."

The unit is not lumping together all shooting on this set. As far as possible all scenes are being taken to follow the sequence of the special script written by Terence Rattigan—author of the play. Which means that the composite is in constant use.

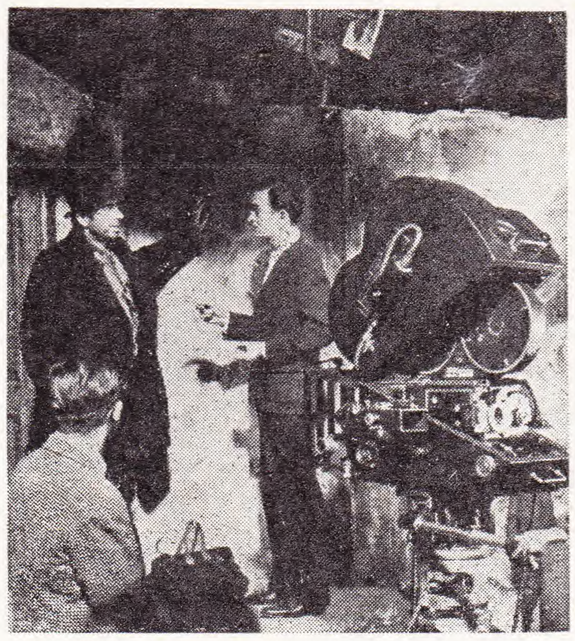
Last words before leaving "The Winslow Boy" stage: Anthony Asquith is highly enthusiastic over Margaret Leighton's work—she's playing opposite Robert Donat.

Donat Party

Couldn't mention this before as it would have spoilt the fun. On Thursday, at 5 p.m. sharp, the whole unit stopped work to join in a birthday party on the set for Robert Donat. It was a complete surprise for the star, although there was a whole lot of planning beforehand. Mine host, I. Diener, the studio's versatile chief of catering, had made a special birthday cake and the prop lads had been busy with a parchment scroll worded:—

Receive, we pray, the Unit's warmest greeting
On this (to coin a phrase) auspicious day.
Be happiness enduring and not fleeting,
Enriching all your life in every way,
Regardless of those worries now competing
To knock us for a loop when we feel gay.
Doubtless these quantities are false. But, stay!
Our sentiments are true, so we entreat you
Not to assess our friendship by this lay,
And therefore, please believe us when we say
THE WINSLOW BOY'S BRIGADE sincerely greets you.

Unit on Gainsborough's WEDDING BELLS, first of the Huggett family films, now in production at Islington Studios, is getting used to working in cramped conditions, for shots inside the Huggett's house set. Here are June Randell (continuity), Dudley Lovell (camera operator), Ken Annakin (director), E. Yospa (focus) and Reg. Wyer (director of photography)



While the camera stands ready David Lean gives last-minute instructions to Robert Newton, who plays Bill Sikes in Cineguild's version of OLIVER TWIST, now in the cutting stage

It was a dual event, for March 18 happened also to be electrician Micky Royston's birthday—and it was his party as well. Which all goes to show how matey they are down by the Thames.

My congratulations to Bruce Woodhouse. With the retirement of publicity chief Roffe Thompson from the Piccadilly headquarters, and the transfer of Enid Jones from the studio to take his place, Bruce has moved up to publicity representative at Shepperton.

HANS MAY'S OPERETTE

Hans May, whose many successful film scores include "The Wicked Lady," "Waltz Time," "Madonna of the Seven Moons," "Thunder Rock," "Brighton Rock," "My Brother Jonathan," and who was responsible for the song hits from "The Wicked Lady" and "Madonna of the Seven Moons" has now invaded the legitimate theatre where his new operetta, Carissima," is proving a big success at the Palace Theatre.

ABPC PUBLICITY

Leslie Frewin, who, as reported in the KINE. last week, is to leave the Gainsborough publicity department, will go to Welwyn studio as unit publicity manager working under Jack Griggs, publicity manager for Associated British and Pathé, on Monday, March 29.

Future Plans

BRITISH NATIONAL

"Wild Marriage" (M. Ostrer-Premier for Pathé).

BUSHEY

Ambassador feature starring Mary O'Lynn starts April 5.

CARLTON HILL

Feature travel film—Barge Productions.

DENHAM

"The History of Mr. Polly" (John Mills to produce).
"Change of Heart" (Corfield-Huth: GFD). Margaret Lockwood to star. Starts shortly.
"Then and Now" (Two Cities: GFD). Thorold Dickinson directing. George Sanders cast, from Somerset Maugham's book. Starts late June.
"Adam and Eveline" (Two Cities. Stewart Granger and Jean Simmons in comedy rôles).
"It's Hard to Be Good" (Two Cities: GFD).

EALING

"Another Shore" (starts April, with Charles Crichton directing and Ivor Montague as associate producer).
"Kind Hearts and Coronets" (director, Robert Hamer).
"Passport to Pimlico" (Henry Cornelius, director; associate producer. E. V. Emmett).

GATE

Sydney Box comedy to start April.

HIGHBURY

"Ladies in Waiting," "Badger's Green," "Shorty and Goliath," "Gambler's Luck."

ISLINGTON

"Trek" (on location).

MANCHESTER

"My Wife's Birthday" (starts April), "The Girl at the High School" (starts August).

MARYLEBONE

Third "Dick Barton" subject.

NETTLEFOLD

"The Glass Mountain" (Victoria) (on location).

PINEWOOD

"Blue Lagoon" (Individual: GFD). Technicolor (location unit returning this week).
"Once a Jolly Swagman" (Wessex: GFD).
"Far from the Madding Crowd" (Wessex-Technicolor).
"Fair Stood the Wind for France" (Cineguild—D. Lean, director; Stanley Haines, script).

SHEPHERD'S BUSH

"Laughing Lady."
"Columbus."
"It's Not Cricket."
"Flowers for the Living."
"The Killer and the Slain" (start June).
"Me and My Bike."
"Wheels Within Wheels."
"Poses for Her Pillow."

SHEPPERTON

"I Bought a Mountain" (L. Arliss Production: British Lion).
"I Will Repay" (Rex Harrison to star).
"The Last Days of Dolwyn" (Emlyn Williams to produce).

WELWYN

"For Them That Trespass" (W. Ward, ABPC for Pathé).

There are no future plans announced for Isleworth, M-G-M-British, Riverside, Southall, Teddington, Twickenham, Viking and Windsor.

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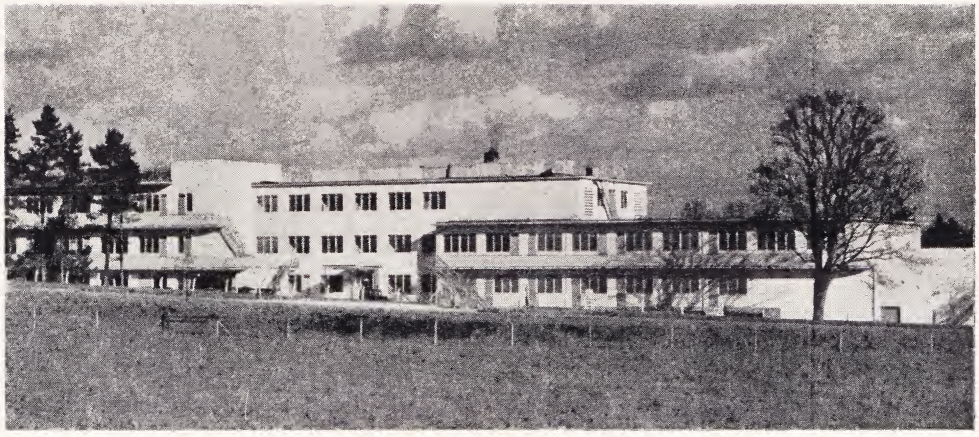

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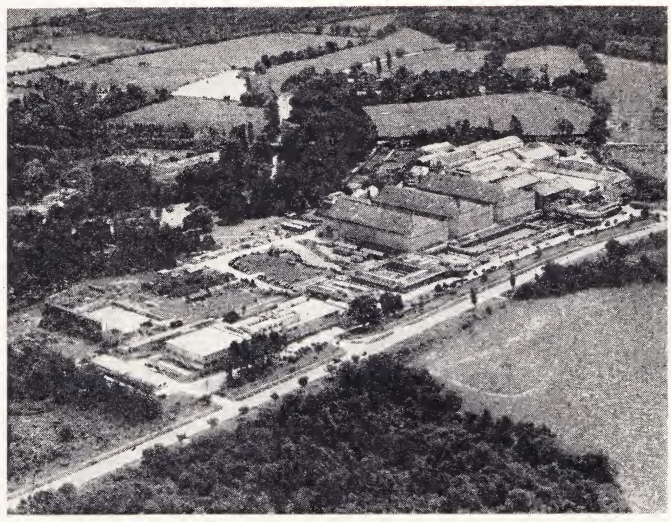

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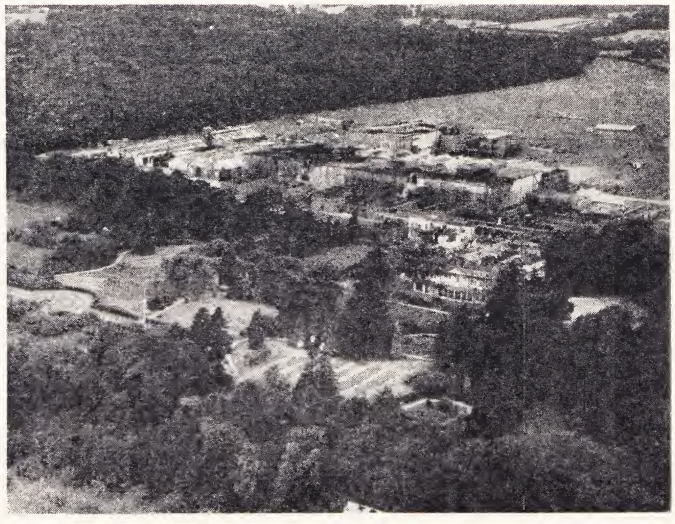

PINEWOOD

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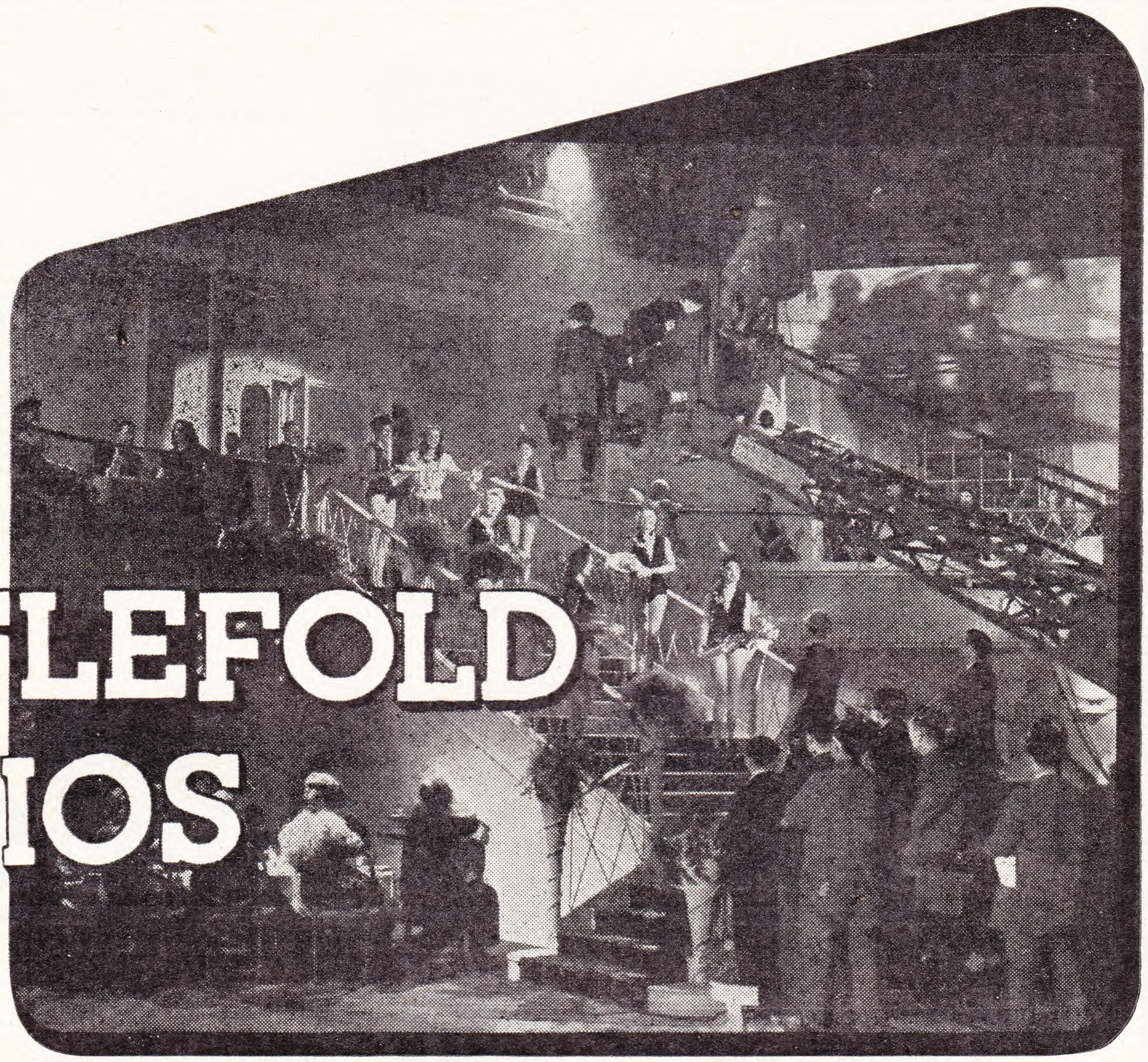

Using a crane, MacLean Rogers directs Celia Lipton in a cabaret scene for Nettlefold's "Calling Paul Temple," to be released by Butcher's.

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THE FOCUS IS ON LABOUR

Continued from page iv

we have 23 studios, 70 stages of a total 552,870 sq. ft. available for feature operation. But, as I have stated, ten sound stages are dark. They've been dark for several months now.

We are assured by union leaders that existing equipment is good. In my opinion, British studios are now among the best equipped in the world.

The Rank Organisation has promised to deliver 43 films this year. Other production plans indicate that companies should provide an output in 1948 approaching the 100 mark. But, as Sir Alexander Korda has said: "Before the war film studios worked 66 hours a week. Now a five-day week of 44 hours has been established. It is obvious that so long as this is in strict operation, films can be made neither as quickly nor as cheaply as before."

Employment Figures

The unions cannot claim that mass staff dismissals have reduced our studios' potential manpower. There have been some dismissals since last year. For example, the total staff at M-G-M-British is now 591 compared with 702 in December. British National has 396 on the pay-roll compared with 435 three months ago. But returns from managements at Denham and Teddington show slight increases in staff.

The total employment figure for operating studios is 7,618, of which 1,728 are technicians, 4,186 constructional personnel and 1,704 clerical and other grades. This excludes the service staffs at studios which have been out of action for several months. When ABPC at Elstree opens and other studios come into production, it would be fair to assume that the total employment figure will be 9,500. This will compare well with the 1936 estimate that 10,500 were employed in *all* sections of feature production—at a time when about ten extra sound stages were in operation.

Negotiating Powers

But the greatest asset to the production industry is the very structure of its negotiating committees and councils. Progress has been slow: but, with the formation of the Board of Trade's advisory committee, the industry now has the strongest possible structure on which to build its future plans.

The National Joint Film Production Advisory Council, which is to hold its first meeting shortly after Easter, will be the top level body for co-ordinating studio activities with Government policy. Unions and producers are fairly represented.

The secondary advisory council, between the BFPA and the three main unions, has already got down to business. It is to hold its third meeting next Wednesday.

The unions are fully represented on the training and apprenticeship council, a body which has the backing of the Ministry of Labour. Progress has been slow, too slow. But the meeting which is being held this week is expected to bring arrangements to the final stage. The training scheme will certainly operate in its initial stages before the summer.

Those are the three big pieces of BFPA-union machinery. But the greatest assurance for co-operation is based on the smooth, every-day negotiations which take place through the offices of the BFPA personnel officer, H. Francis. Francis has a tough job: to date, he's tackled it well.

The Problems Ahead

Now that the *ad valorem* duty has been scrapped and Hollywood pictures will be coming into the country again, the production industry will face new problems. The U.S companies will have about £12,000,000 a year to invest in British film-making, according to the Board of Trade experts. That will be one of the big talking points at the union conferences next month.

We need more films—but our stage space is restricted. Union men should ask themselves if some new deal could not be made whereby stages are kept working six, maybe seven, days a week. British workmen have mass-produced many high-quality goods.

And the unions know it can be done. In the words of Tom O'Brien: "Expanding production can be achieved. It is worse than foolish to blame all the troubles on the producers. It would be worse than foolish, because if you do that you overlook the fact that we are to battle with the Government for priorities. The Government must enter into this matter whether we like it or not.

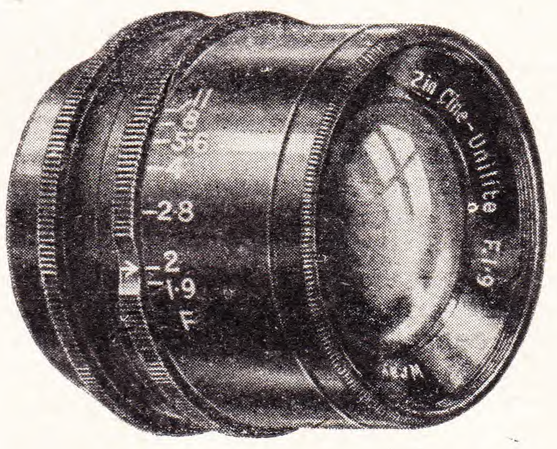
"The days have gone when we can stand on a platform as trade union leaders and decry the employers and then go into a conference-room and expect constructive results. The day has come for the trade unions to take a responsible place in the construction of this industry and not the destruction of industry."

Indeed, the unions now have the tools. They can do the job.

Current Production Chart

STUDIO.	TITLE.	WEEK.	PRODUCER AND RENTER.	CUTTING STAGE.
BRITISH NATIONAL	"No Room at the Inn"	10	British National : Pathe	"Uneasy Terms" (Br. National : Pathe). "So Died a Rat" (Br. National : Pathe).
BUSHEY	Sets building	—	———	"Calling All Sportsmen" (Featurettes : Ambassador).
CARLTON HILL	Sets building	—	———	"The Clouded Crystal" (Cullimore-Arbeid : Butcher).
DENHAM	"Sleeping Car to Venice"	11	Two Cities : G.F.D.	"Hamlet" (Two Cities : G.F.D.).
	"Woman Hater"	7	Two Cities : G.F.D.	"One Night With You" (Two Cities : G.F.D.).
	"Martha"	2	Two Cities : G.F.D.	"Blossoms of Sin" (Huth-Corfield : G.F.D.). "Mr. Perrin and Mr. Traill" (Two Cities : G.F.D.).
EALING	"Scott of the Antarctic" (Technicolor). "Eureka Stockade" (In Australia).	13	Ealing : G.F.D.	"Saraband for Dead Lovers" (Ealing : G.F.D.). Technicolor.
GATE	Religious films	—	J. A. Rank Studio	———
HIGHBURY	"A Piece of Cake"	3	Rank second feature : G.F.D.	"Penny and the Pownall Case." "Song of Tomorrow." "Trouble in the Air." "Fly Away Peter."
ISLEWORTH	"The Small Back Room"	1	Archers : British Lion	———
ISLINGTON	"Wedding Bells"	2	Gainsborough : G.F.D.	"Miranda" (Gainsborough : G.F.D.). "Blind Goddess" (Gainsborough : G.F.D.).
MANCHESTER	No production	—	———	———
MARYLEBONE	"Dick Barton and the Ray of Death."	4	Marylebone Hammer : Exclusive.	"My Hands are Clay" (Dublin Films).
MERTON PARK	"The Fool and the Princess"	1	Merton Park : G.F.D.	Shorts and sponsored product.
M-G-M BRITISH	"The Guinea Pig"	9	Pilgrim : Pathe	———
NETTLEFOLD	"The Story of Shirley Yorke"	5	Nettlefold Productions	"Calling Paul Temple." "The Monkey's Paw" (Nettlefold Pro. : Butcher).
PINEWOOD	"London Belongs to Me"	21	Individual : G.F.D.	"Esther Waters" (Wessex : G.F.D.).
	"The Passonate Friends"	5	Cineguild : G.F.D.	"Oliver Twist" (Cineguild : G.F.D.). "Red Shoes" (Archer : G.F.D.).
RIVERSIDE	No production	—	———	———
SHEPHERD'S BUSH	"Portrait of Hildegard"	6	Gainsborough : G.F.D.	"Good Time Girl" (Gainsborough : G.F.D.).
	"Quartet"	7	Gainsborough : G.F.D.	"The Bad Lord Byron" (Gainsborough : G.F.D.). "Broken Journey" (Gainsborough : G.F.D.). "The Calendar" (Gainsborough : G.F.D.). "Daybreak" (S. Box : G.F.D.).
SHEPPERTON	"The Winslow Boy" (From Isleworth).	10	World Screenplays : British Lion.	"The Lost Illusion" (Carol Reed : British Lion).
	"The Girl He Left Behind" (Technicolor).	1	Wilcox : British Lion	"Bonnie Prince Charlie"—Technicolor (London Films : Br. Lion). Summer location to end production.
SOUTHALL	No production	—	———	"William Comes to Town." (Alliance : U.A.).
TEDDINGTON	"Noose"	12	Edward Dryhurst : Pathe	———
TWICKENHAM	No production	—	———	"The Brass Monkey" (Alliance : U.A.).
VIKING	"Date with a Dream"	4	Tempean : Grand National	"The Penny Doctor."
WELWYN	"Queen of Spades"	11	World Screenplays : Pathe	"Bond Street" (World Screenplays : Pathe).
WINDSOR	"Melody in the Dark"	4	Advent Production	"A Sister to Assist 'Er" (Bruton : Premier).

The Gevaert factory at Antwerp



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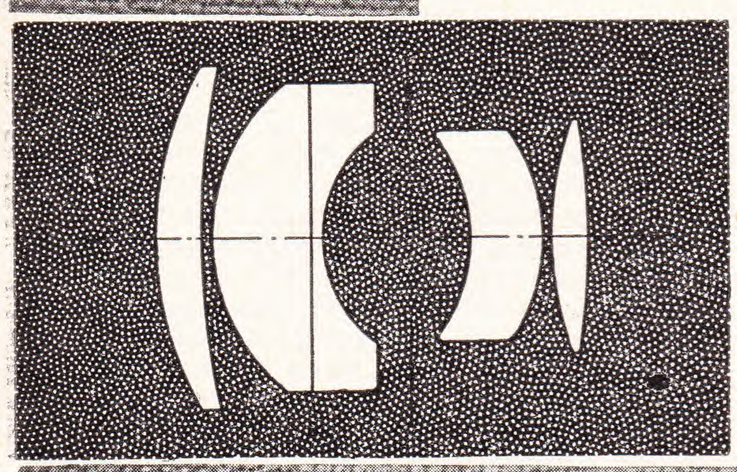

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SCREEN JOURNALISM—THE NEW LOOK IN FILMS

Why Star-less Productions of Real Life Are Exactly Right for the Modern Public Appetites

by HOWARD THOMAS, Pathe's Producer-in-Chief

NOW that the exhibitor has heaved suitable sighs of relief about the easing of restriction on American films, he can turn towards his other problems, and high in order of priority comes Harold Wilson's new Quota Act.

There will now be an obligation to include more British supporting films, and the exhibitor has to work out how he can complete his programme with either British second features or British shorts. His task is to provide a properly balanced programme with a fullness sufficient to satisfy that high percentage of patrons who regard the double-feature bill as normal kinema fare.

That Little Bit Extra

The main feature will continue to "draw 'em in," but to keep the kinema habit flourishing the exhibitor has to provide his customers with something which will keep them content for the extra hour or two. And in these days kinemagoers are expecting something more than mere scraps of entertainment to peck at before the main dish is served.

It seems to me that the answer to the exhibitor's problem is screen journalism—the New Look in pictures. There is no doubt that the public, and especially the women public, is taking a deeper interest in the world around us. I am not saying that we are becoming a nation of Third Programme types, but there is undoubtedly much more interest in how the world works. Newspaper circulations have never been higher; audiences to BBC informational programmes are numbered in millions; Government White Papers have become best-sellers. Just as Lord Northcliffe early in the century put the publishing business in the money by realising that people were learning how to read, so the film business can exploit the fact that in our time people are learning how to think.

Films of Actuality

This is no advocacy for documentary films in every kinema, for it is obvious that too many documentary films are made to impress long-haired customers of certain Soho pubs rather than to enthral the millions who keep the box-office busy. My contention is that films of actuality, if they are produced in a showmanlike manner, are exactly right for the public appetite of to-day.

Pioneer of this screen journalism was unquestionably the "March of Time," and, with the plough well furrowed, similar success is now beginning to be achieved by "This Modern Age." Pathé has entered this field with "Summing Up," a quarterly review, presenting in dramatic form the real news behind the headlines.

A Successful Experiment

The "March of Time" producer took his experiment into the feature field, and the result was full-length actuality films like "Boomerang," "The House on 92nd Street" and "13 Rue Madeleine." The latest one we are all waiting to see is James Stewart in "Call Northside 777," the account of how a Chicago reporter unearthed the story of a mother who scrubbed floors for 13 years to save 5,000 dollars to prove the innocence of her convicted son.

The real problem for producers of these films, which are dramas of real life, is the introduction of stars. Add a star and you gain box-office appeal but lose authenticity, because to the kinemagoer it is never that Chicago reporter but an attractive actor by the name of James Stewart.

In this country, it seems to me, where we prefer understatement to exaggeration, there will always be an unwillingness to introduce stars into authentic pictures. Such films already have to blend the accuracy of documentary with the excitement of fictional features, and it will strain the credulity too much to tailor the results around Stewart Granger or Richard Attenborough.

Probably, then, these star-less films of real life will be the answer to the exhibitor's problem of providing really satisfying British supporting films.

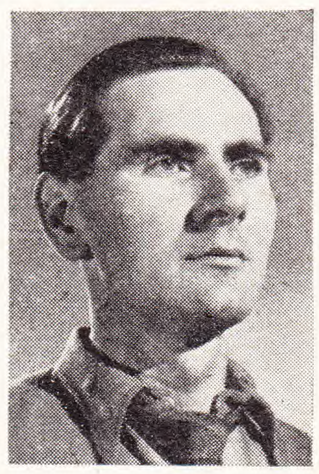
The Ideal Programme

It would seem that the ideal programme in the autumn of 1948 will consist of a first-class, high-star-value fictional feature, with a non-star 3,000-5,000 ft. British actuality film, entertainment short and a newsreel. In many cases it will comprise a good programme if we have a typically American feature supported by a typically British actuality film. At other times there can be an all-British programme such as we offered with considerable success when we teamed "Brighton Rock" with our factual film, "Scrapbook for 1922."

At the moment there are many problems facing the producers of such films of "the drama of everyday life," but once these are overcome and there is a flow of such films it is hoped that exhibitors will help along this new fashion of screen journalism and give their programmes this New Look.

Was it Really Worth the (Foot) Candle?

GILBERT TAYLOR gives his answer based on actual experiences gained in his first job as director of photography



IF, nine weeks ago, on the eve of shooting "The Guinea Pig," which the Boulting Brothers are making for Pilgrim Pictures at M-G-M Studios, Elstree, anyone had asked me how I felt about my first assignment as director of photography, I might have been bold enough to say that I had every confidence in being able to turn out a good job; and, with 19 years' experience of camera work to back me up, I would have believed it.

The Practical Way

Had anyone, however, repeated the question seven weeks ago, my answer, I think, might have been somewhat different. Those first two weeks on the picture made me wonder whether the jump from operator to lighting cameraman was really worth the (foot) candle. Since then, however, a fair amount of film has gone through the camera and much lighting experience gained which one can only acquire doing the job rather than watching others do it.

This is the reason why I feel that I should like to address my remarks to other operators destined to get a similar break.

When I was fortunate enough to be chosen for my present assignment I was keyed up. I am convinced that that is not really a bad state to be in. If one begins the job by "knowing it all" it is obvious that one has no more to learn and therefore cannot improve.

Perhaps the most frightening part of the job is the first set, which so often turns out to be anything but the one on which you have given the most thought. In my case, on "The Guinea Pig" I was caught entirely on the wrong foot when it was decided that the first set was a squash court and not the one which I had already been lighting in my own mind.

Therefore, my first advice is not to have too many preconceived ideas about lighting the "nice" sets to come: those beautiful drawings on the art director's desk which are inclined towards false perspective and are sometimes quite impossible to reproduce—at least from a lighting point of view—on the floor.

Every set has its own particular problems and those with the least "glamour" about them are frequently the most difficult to light.

While we are still talking "art," I might add that I consider quite a few headaches could be avoided if, for example, colour schemes were vetted by the cameraman. Extremes of colour contrast in a set often make it difficult if not impossible to carry out one's original lighting plan.

Keeping to Time

But perhaps one of the biggest bugbears, that keeps the director of photography awake at night, is the schedule. It is something of which as an operator I was always conscious but for which I could not be held responsible, should the production be running over its allotted span.

Now, however, I am, it appears, directly responsible for every minute of it so that quite often that "good idea" or "rather nice effect" has to be sacrificed for time. When time frequently costs five or six pounds a minute at least, the sacrifice cannot reasonably be considered anything but worth while.

What I must impress, therefore, on other camera technicians is that they realise that as soon as they get their chance as lighting cameraman they have to set the tempo on the floor.

Pre-planning Snags

Too much preconceived planning, although there is obvious merit in trying to work out one's problems in advance, is liable to hold things up. I have found that one sometimes gets a lot of ideas and when one comes to put them into operation something happens to throw a spanner in the works. Maybe the director has a sudden change of mind, a piece of furniture is moved, the microphone is throwing a shadow or the scene is to be photographed from an entirely different angle—and one has to

Continued on page xx

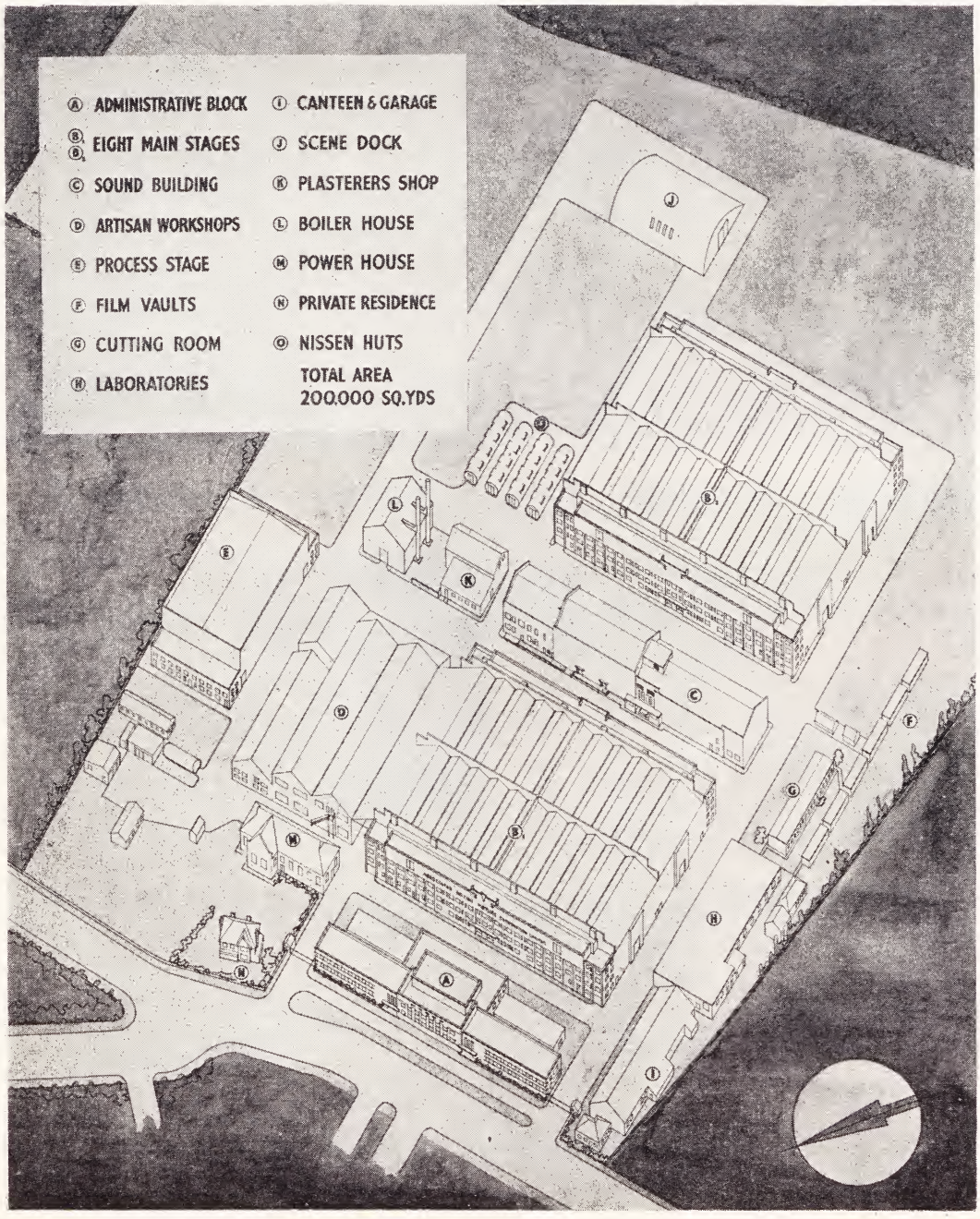
Associated British Elstree Studios Scheduled to Open This Summer

HERE is the complete layout of the reconstructed and redesigned Associated British studios which, together with blocks of outbuildings, cover an area of 30 acres. There are eight main stages, while a ninth stage, away from the main section, with its own offices, recording theatre, make-up department, and so on, will operate as a completely separate unit. This will be used for films of the musical type which call for a studio isolated from the rest.

Special equipment for the use of colour has been provided in all the stages.

There will be a composite building containing a scoring theatre, with accommodation for orchestras up to 70 to 80 instrumentalists, and a monitor room. There will also be a recording theatre, a preview theatre for the staff, scenic artists' rooms and store rooms for sound equipment.

In the administration block there is a preview theatre holding 400 people.



WAS IT REALLY WORTH THE (FOOT) CANDLE?

(*Continued from Page xix*)

forget one's original ideas and start again.

Intensive pre-planning can only be done up to a point—that is, when the action can be portrayed in only one way. If there is an alternative, you can be sure that the director will find it.

To watch some of our experienced cameraman, the uninitiated might reach the conclusion that all that is necessary is the ability to read the foot-candle meter in order to obtain good photography. In fact, nothing could be more wrong, since by far the most important factor is balance, which is something only your own judgment can assess.

A Difficult Job

I found that my greatest difficulty was to keep my subject tones within the straight line portion of the negative curve. This all has to be done visually through the camera, and it is this correct balance of light and shade or contrast in the subject which is the key to good photography—always with the proviso, of course, that the composition is right.

Subject colour, I think, is of prime importance and the operator would do well to ask permission of the lighting cameraman with whom he is working to go over the set with a reflected light meter of the Weston Master II variety and make notes of the reflected light readings from various colours.

I have been making a good use of this during the shooting of "The Guinea Pig" and find it is a wonderful aid especially on photographic background walls, dado and any other dark objects in the picture. Since I know that I must remain within certain limits to retain shadow and highlight detail, this principle acts as a good check on one's own judgment.

Experience Counts

In conclusion, I would like to make what I think is perhaps the most important point. In many cases when an operator is given his first lighting assignment he is sent on the floor with an operator and an assistant who are doing their first picture; whereas experienced cameramen always have experienced crews around them. Is it any wonder then that the new cameraman does not do quite as well as was expected?

Fortunately for me, I have on this production one of the most experienced camera crews in the country, who at all times pride themselves on giving me the same service and loyalty they would give to the most expensive cameraman imported from Hollywood.

A "STARLIGHT" FIND

A 12-carat diamond was picked up by Patrick Matthews and Ronald Pilgrim, of Cine Industrial Films, while they were taking background shots 1,200 ft. underground at Kimberley for "Starlight Stone."

Mr. Matthews picked up a lump of rock to steady the camera tripod and found the diamond embedded in it.

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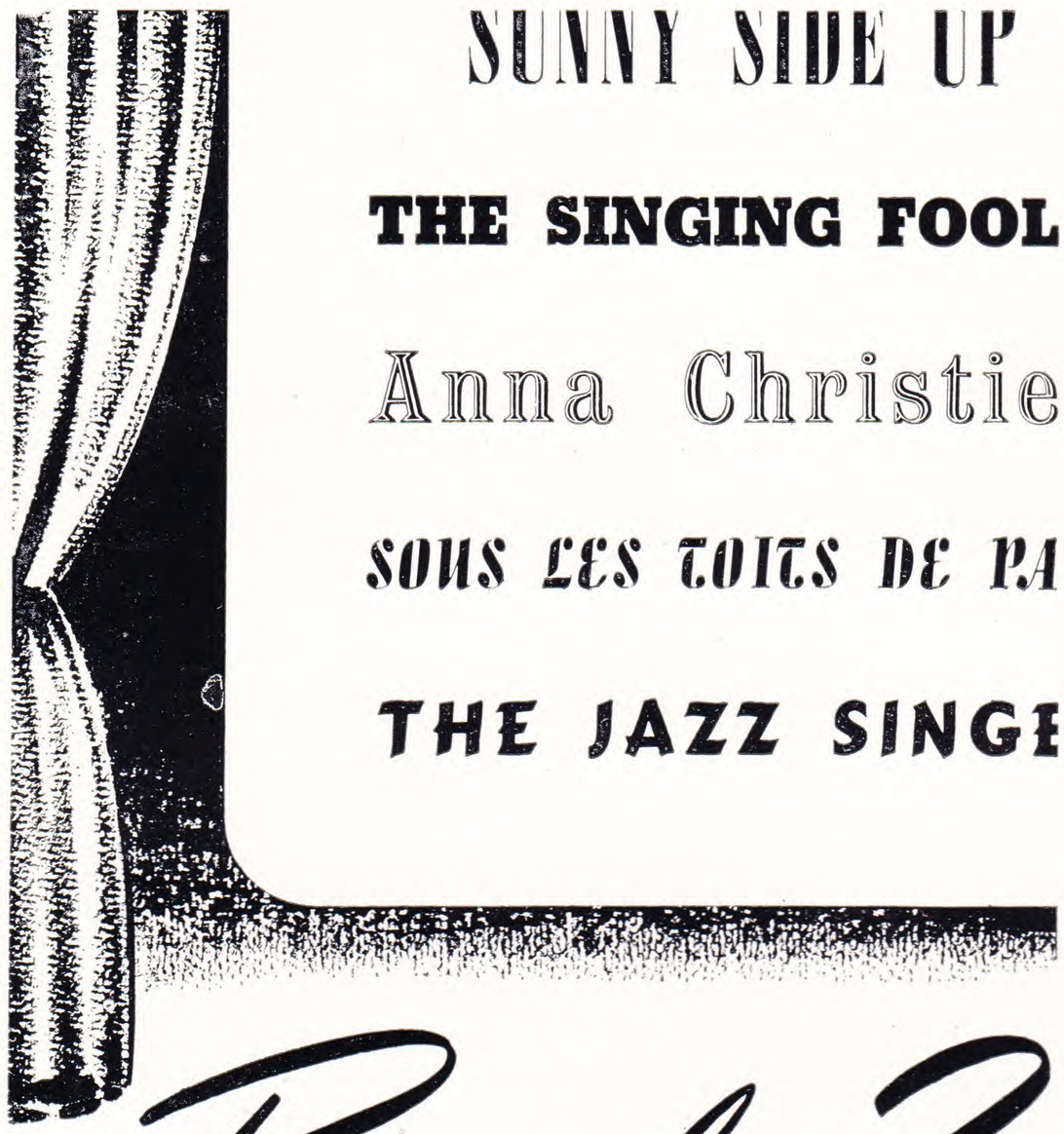

SUNNY SIDE UP

THE SINGING FOOL

Anna Christie

SOUS LES TOITS DE PA

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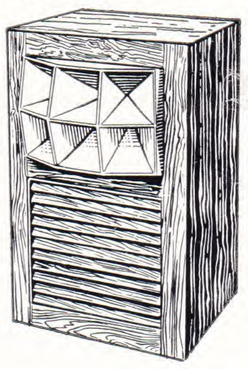

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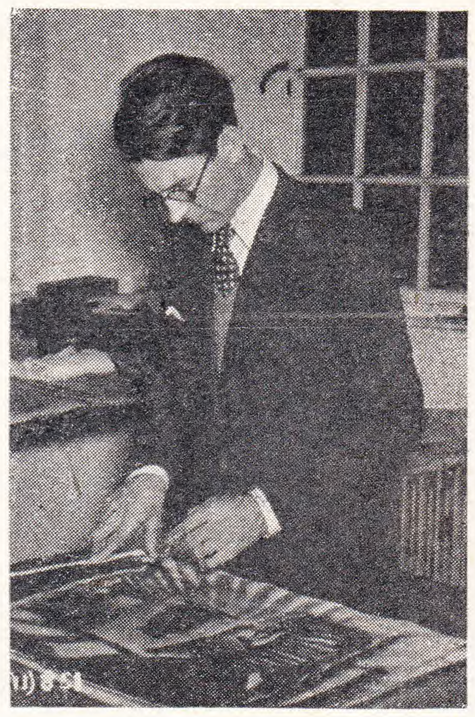
HOW "MINIATURES" GROW UP

The Methods Employed in Model Set Building And Their Part in Modern Film Making

by JOHN BRYAN
Cineguild's Production Designer



On the right he is seen at work on a sketch for OLIVER TWIST, which is reproduced in detail below. The final result for the screen is seen in the bottom illustration

MINIATURE sets are becoming more and more important in the production of a modern film. It is not just that they save money; more importantly they make possible what would normally be impossible. They are one of the refinements of present-day film-making and they play a more and more important part in the motion picture of 1948.

Inevitably, they figure more and more in the discussions of the British Kinematograph Society. This lecture, delivered by John Bryan, production designer, was given at the recent BKS and ACT meeting. In this special KINE. report, Mr. Bryan pulls wide the doors of the modern special effects department.

Mr. Bryan first discussed the reasons for the use of process shots in general, and miniatures in particular. The first consideration, he said, was economy in production: it was possible to produce the illusion of great buildings, of scenes out of the past, to reproduce special lighting effects, to obtain otherwise difficult camera angles, such as high-level shots.

The cameraman has problems which sometimes make process shots necessary. He might have insufficient lighting equipment to light a large set; by the use of a hanging miniature he can use his lights to best advantage; further, a hanging miniature will enable the lights to be placed above the walls of the set, hidden by the miniature.

An Exact Replica

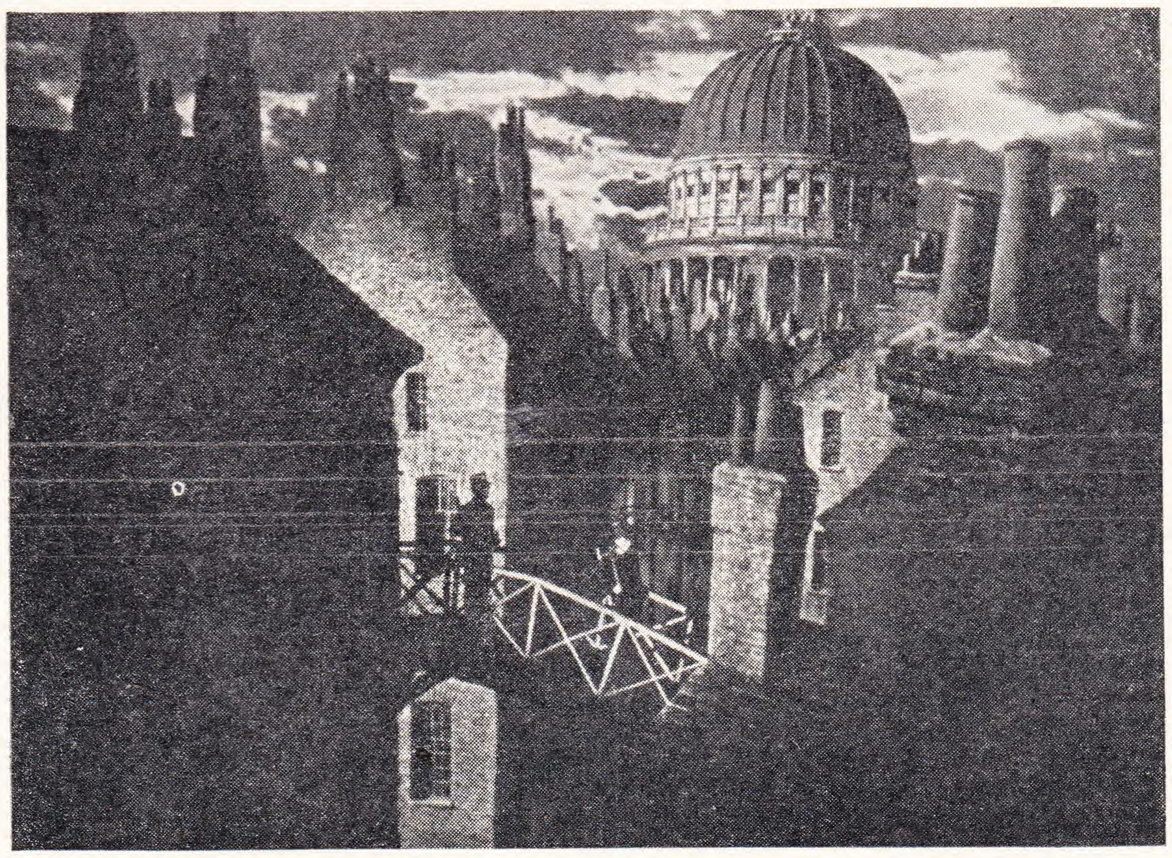
The art director will find that he can more easily preserve the design of his set. If he were forced to use a real scene it might not agree with the dramatic requirements of the scene; the miniature will enable the scene to be portrayed exactly as the artist intended it.

The image on the film may have started on a flat plane, a model set, a hanging miniature, or, in its simplest form, the hanging of a painting in front of the camera.

A set of a large interior could be treated in a number of ways. First of all, everything above the heads of the actors could be painted; but in this case it would be difficult to represent in a painting the brilliance of chandeliers. The second method was to place a hanging miniature close to the camera, and by means of blackboard sketches Mr. Bryan illustrated how a model could be placed at any distance from the camera, provided the points required to match with the full-sized set lay on lines joining these points on the main set with the camera lens.

Most model shots fall into two categories. There is the type done in conjunction with the shooting on the floor—a ceiling on a ballroom set, shot concurrently with the shooting of the scene; the objection to this method is that sets have to be built rapidly, and there is seldom time to effect a perfect match between the miniature and the built set, either in architecture or in colour.

Shots of this category can be done by the Schüfftan process, in which a mirror is placed at an angle of 45 deg. to the camera, reflecting the model set into the lens, the mirror having its backing scraped away in the area of the real set.



The second category includes shots in which the area in the original scene is matted out in the first take. Then the missing parts of the scene are printed in, and can be matched up accurately. This method has the advantage of not holding up the very expensive floor unit by the time it takes to light and match up the model.

Mr. Bryan next projected some sections of films showing examples of the combination of various methods. The method of preparation of such a scene he described in relation to a sequence from "Oliver Twist," in which the dome of St. Paul's towered above crazy roofs and chimney-pots, while in the middle distance a rickety bridge spanned the gap between two buildings; the characters moved across the bridge.

First the sketch is projected in perspective, explained Mr. Bryan, and drawings are prepared for the complete set, as though it were to be built in actuality. With the special effects department it is next discussed how much of the set shall be built full-size, how much in model, and how much will be painted.

In the case of the sequence in question, the only portion built full scale was the bridge and the adjoining portions of the houses. The nearer roof-tops were built as a small model, the more distant roofs and the sky being a painting. The dome of St. Paul's in the distance was built as a model, so that day and night lighting effects could be produced.

The next sequence shown was the ballroom scene from "Great Expectations." Here again the roof and chandeliers were models—a fact which was demonstrated by David Lean stepping on to the scene and touching one of the chandeliers.

There is a Limit

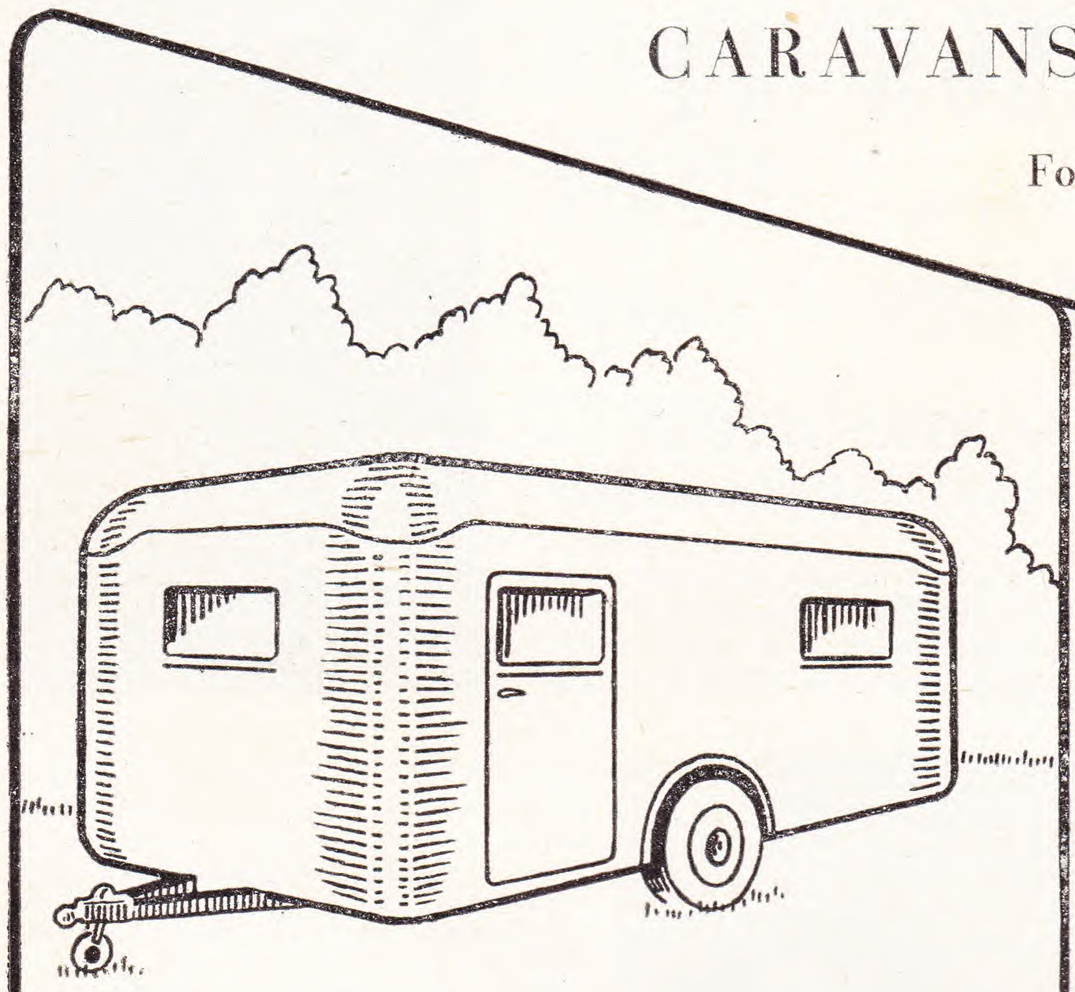
Two things which cannot be reduced in scale are fire and smoke. The scenes from "Cæsar and Cleopatra," showing the burning of the library, were therefore produced by placing the fires at some distance behind a model, the flames and smoke appearing above the model. Sequences of the market-place from this scene were, said Mr. Bryan, almost entirely miniatures or paintings—although he stressed that the word "miniature" was not to be taken too literally, since some of the models were 30 ft. in length.

For panning on model shots a special tripod head has to be used, known as a nodal head, in which the axis is immediately below the nodal point of the lens. Thanks to this head, one can pan directly from a model set to the full-size set.

Mr. Bryan described how, during the war, he had prepared a set of a poison-gas factory for the film "Adventures of Tartu." A complete model of the plant,

Continued on page xxv

CARAVANS FOR LOCATION WORK



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MOLE-RICHARDSON'S NEW ARC LAMP

Features of High Intensity Model

THE increase in intensity of light required for modern film production has brought with it many problems, amongst them being the need for greater screen brilliancy for rear projection, as the light available for this purpose hitherto fades into insignificance by comparison with the set illumination in the foreground. To meet this new demand Mole-Richardson has produced the Type 1250 projection arc lantern.

This job of engineering embodies many new features in arc lamp design, enabling carbons to be burned steadily at current ratings previously considered impracticable, or impossible.

To achieve this, a system of water cooling for the carbon brushes has been evolved; this effectively dissipates the tremendous heat generated by the arc, which would otherwise damage the lamp mechanism. The Type 1250 lantern is based on the original design known as the Type 250, and by the use of Morganite water-cooled heads for the positive and negative carbons, the maximum current has been raised from 225 amps. to 300 amps., resulting in an increased light output of approximately 50 per cent. This now provides a range of 150-225-300 amps.

Accurate Focusing

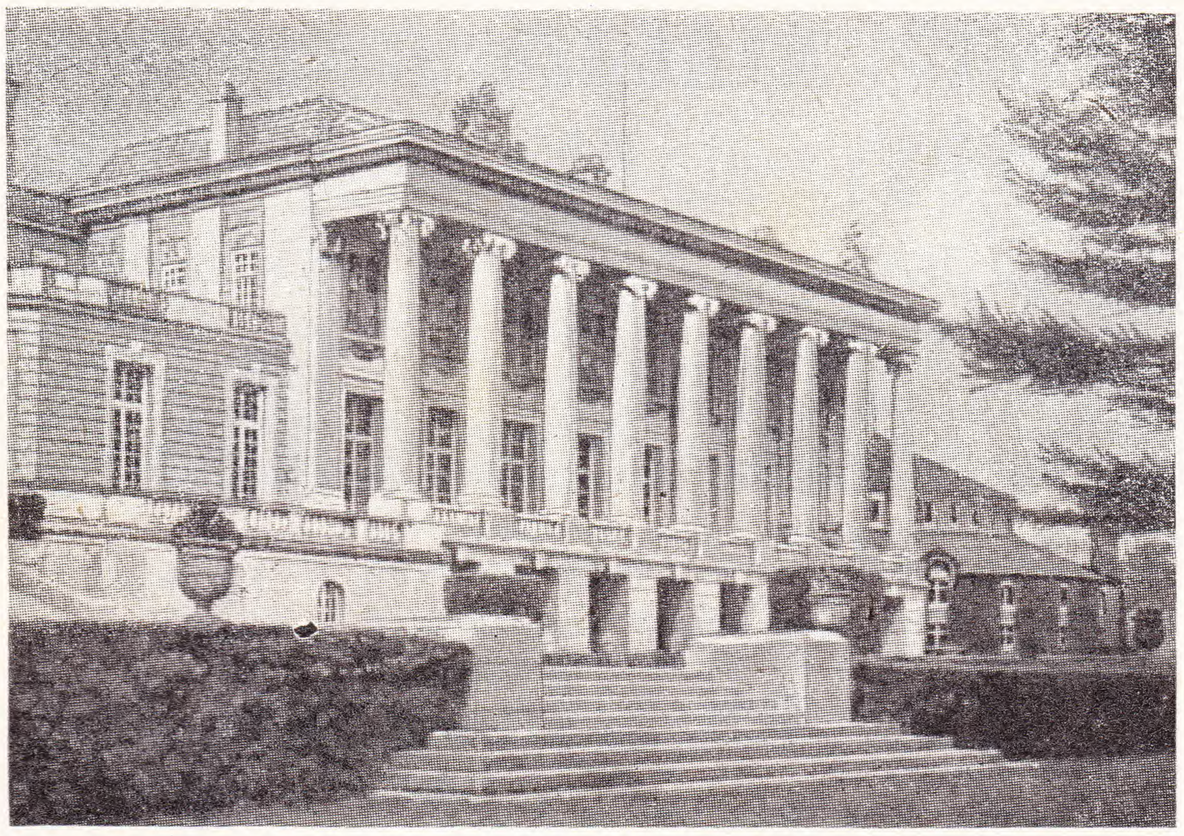
Extremely accurate focusing of the positive crater is maintained by a relay-controlled motor, operated by a beam of light from the crater directed on to bimetal strips. The lamp is fully automatic.

There are, of course, other problems associated with the production of a lantern of this type, such as the development of suitable carbons. In this country the Morgan Crucible Co. has collaborated with extensive research facilities.

Another application of the Type 1250 lantern, with the addition of a suitable optical system developed by Taylor, Taylor and Hobson, is the high-intensity special effects spotlight, which will superimpose a true circle of light upon the high key lighting of a colour production, for the purposes of a stage or dance scene.

The floor cabling and distribution of current to feed large numbers of high-powered lighting units is well catered for by the simplified system introduced and supplied by Mole-Richardson. Sets requiring 20,000-30,000 amps. are easily cabled by units of equipment, any single item of which may be handled by one man.

Future developments and requirements of the industry are being carefully studied, and for this purpose a research department is being set up, which, coupled with the highly productive works already existent, will be capable of rendering unequalled service to the industry.



The imposing frontage of the Oldway Studios, at Paignton, which starts its career in June under the managing directorship of F. W. Baker

Oldway Studios, Paignton, to Start Filming in June

THE Oldway Studios will open in June with "Ur of the Chaldees," from the book, "Dead Ground," by Howard Clewes. Lance Comfort will be the producer-director.

Future plans for the property are to develop a four-stage plant on a 50-acre site.

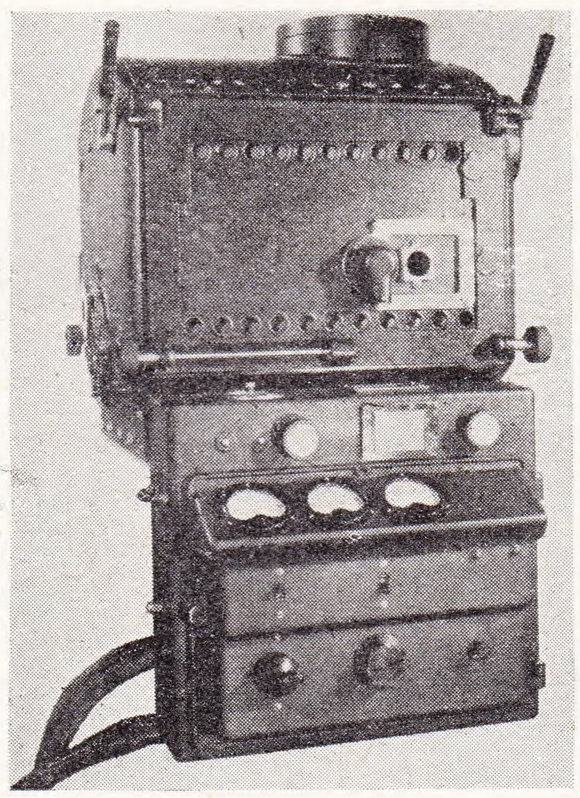
The new studios have two stages:—

Stage "A," 100 ft. by 54 ft., height 40 ft., including a tank 48 ft. by 18 ft., 7 ft. deep.

Stage "B," 136 ft. by 30 ft., with a dividing screen giving two small change-over stages, 68 ft. by 30 ft.

There is a theatre, re-recording room, three cutting rooms, thirteen dressing-rooms, crowd rooms, workshops and restaurant.

Equipment will be—RCA recording, playback and re-recording. Back projection, two Newall cameras; Acmade cutting-room equipment; Mole-Richardson and GEC lamps; 300-kW., D.C. generator, with 200 Kva from the A.C mains.



To meet the need for greater screen brilliancy, Mole-Richardson has introduced a Type 1250 projection arc lantern. This embodies many new features including an ingenious cooling device

PHASE MODULATION IN RECORDING

It was fitting that the subject of the first meeting to be held at Film House since the installation of the new GK21 projectors should have been sound. The occasion was the BKS meeting at which tracks produced by Norman Leevers using the phase modulation principle described by J. A. Sargrove and D. A. Ball showed a high quality of reproduction.

Although at first thought the substitution of DC to AC in the microphone might seem to be a comparatively trivial matter, R. H. Cricks observes, in point of fact, as the speakers demonstrated, it is probable that it will have considerable advantages in the studio. The possibility of feeding the microphone current through hundreds of feet of cable without loss of quality is an obvious step forward, while the suggestion that radio might altogether eliminate the cable raises hopes of one's being able to walk across a studio floor without tripping over cables.

A word should be said about Mr. Sargrove's facile and easily understood presentation of a difficult subject. His explanation of how a multi-grid valve could be made to respond to phase changes in a high-frequency carrier was admirably clear, and provided an example of how interdependent are our various sciences to-day, since the invention arose out of investigations into super-het. circuits.

HOW MINIATURES GROW UP

Continued from page xxiii

18 ft. high and 30 ft. long, had been built; on this, all the B.P. plates, photographic backings, and matte shots were photographed. Most of the scenes were shot at Shepherd's Bush studios, but certain scenes from a chase sequence needed a very high camera view-point; for these, the camera was mounted on the roof of Wembley Stadium.

The next film sequence shown was of a different type: a girl climbing over a rough hill through a thunder-storm; in the background the storm-clouds chased across the sky, while the girl was buffeted by wind and soaked by the drenching rain.

The first problem was to produce the clouds. It was obviously useless to wait for suitable weather. The special effects department produced the illusion by sticking cotton wool upon sheets of glass, which were moved in the required directions. The film of these clouds was used as the background plate.

The rain was produced by stretching fine threads of glass wool tightly across the screen. In the foreground the girl stood upon a treadmill, with immediately behind her a small portion of scenery built full scale, while the farther distance was a model.

Considering Sound

Later, Mr. Bryan, replying to A. W. Watkins, pointed out the assistance rendered to the sound recordist by the elimination of real ceilings; it was necessary to take sound into consideration when building sets in exaggerated perspective, in case of unwanted reflections.

Replying to A. Stafford, Henry Harris, at the request of the lecturer, explained the principle of the nodal head. The camera, he said, is suspended in a framework, the pivot of which is in line with the centre of the lens, both horizontally and vertically. Special lenses have to be used for Technicolor cameras, because the optical system alters the nodal point of the lens.

In reply to F. Rodker, the lecturer stated that it was fairly easy to match up a hanging miniature with the full-size set by means of lighting and by getting the painter to alter the tones where necessary. In the case of the matte process, a fairly long test of, perhaps, 200 to 400 ft. is made, permitting the painter when painting the matte to make frequent tests.

L. H. Bacon asked about difficulties of depth of focus with miniature shots; the lecturer explained that at the normal lens apertures the depth of focus extended from 10 ft. to infinity, and it was only necessary to ensure that the scale of the miniature was such that the point nearest to the camera would not be closer than 10 ft. Henry Harris stated that it was rarely necessary to stop down the lens, and never below *f*/4.5.

ASFP MEMBERSHIP REACHES THE HALF-CENTURY MARK

Hoare Warns Against the Growing Demands of the Studio Unions

MORE than 50 companies have now joined the Association of Specialised Film Producers. This was revealed by F. A. Hoare, of Merton Park, the chairman, at the annual general meeting last week.

Mr. Hoare, in his survey of the year, was moderately optimistic, although he did not disguise the fact that some of the specialised producers had been going through a difficult time.

"Despite some temporary setbacks, such as those which arise from a falling-off in the demand for sponsored films by industry due to prevailing uncertainty and economic stress, and from the tendency of the Government to reduce the volume of film production placed with our members," he said, "I am convinced that the demand for our services is bound to increase.

"This applies particularly to the field of education, where large quantities of school films will have to be made through the agency of the newly established Educational Foundation for Visual Aids.

"It is, however, essential that present tendencies for production costs to increase, particularly those arising from extravagance and unnecessarily elaborate or wasteful practices, be firmly resisted. The difficulty is that standards and practices in feature film production tend to influence those in short and specialised production, despite the fact that the economic level of the latter is quite different.

Our Lines Clear

"I believe the lines of development of our branch of the film industry are becoming clearer, partly as a result of the new Films Bill, which is about to become law. The separate quota provisions for films other than first features—that is, both long and short films which together form the supporting programme—give us a great opportunity.

"We can make large numbers of such films of high quality and good entertainment value in this country, rather than importing them from abroad, with further strain on the nation's dimished dollar resources. But there are three conditions which we must achieve to make this possible.

Chance Will Be Lost

"First, it must be possible to make the films at a reasonable cost commensurate with their earning power. If the trade unions cannot be persuaded to agree to less onerous conditions than those which operate for first-feature production, then the opportunity to expand British production and provide more work for technicians will be lost. At present the signs are bad.

"Two experimental pictures of this type are held up by strike action on the part of ACT—action which is a contravention of the agreement between the union and this Association and which is damaging to all the interests concerned—not least to the technicians themselves.

"Secondly, there must be a better market and a more reasonable return on the 'supporting' films than is at present the case."

The Association's First

The yearly report is actually the first to be issued under the Association's present name—it was originally formed as the British Short Film Producers' group of the old Sub-Standard Cinematograph Association, back in 1936.

Membership has increased from 22 to 52 during the year under review.

The Association's first full report deals largely with quota legislation, the problems of educational films and with trade union agreements.

Concluding his review of the year, L. G. Parker, secretary, says: "The Association has come a long way in the past year and is now more firmly established and more widely recognised than ever before."

F. A. HOARE
Chairman of the ASFP

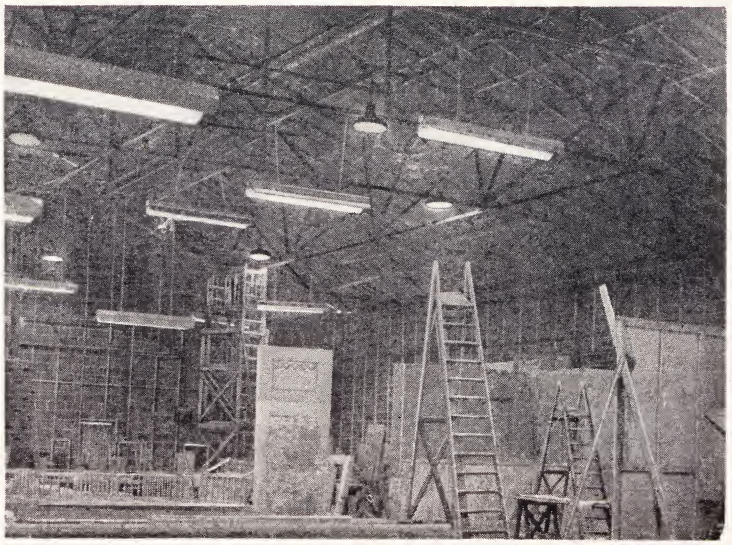
THAT 5-DAY WEEK ACT's VIEW

THIS is the ACT point of view on the five-day week, as sent out to the studios in a statement by general secretary George Elvin:

"One or two producers appear to have taken into their heads that the national crisis provides an admirable opportunity to break the recently-signed 44-hour working week agreement. The general council has made clear it is most anxious to discuss with the producers collectively the need for increased output, but the only response so far has resulted in ACT having more feature technicians unemployed than at any time for the past ten years.

"In view of this apparent complete disregard of the national interest, the general council cannot agree to extended hours outside the terms of the agreement with the BFPA. It is hoped, however, that the President of the Board of Trade's joint consultative council will soon be established and set out to accomplish what the producers appear unwilling to do. . . ."

Nettlefold's Third Sound Stage



Nettlefold's third sound stage now nearing completion. It measures 120 ft. long, 60 ft. wide and 16 ft. high and will be used for normal-sized sets, back projection and process shots, musical recording and post synchronising

Religious Film Making at the Gate

THE Gate studio, Elstree, was built as a silent studio by Whitehall Films in 1928. Between then and 1940 many companies have made films there. In 1940 the studio was requisitioned by the Army as an ordnance store depot, and was not released until October, 1946.

Arthur Rank then took over the studio and started to re-equip it completely. This involved the installation of much new technical equipment, rebuilding and re-sound-proofing.

The first post-war activity at the studio, before reconditioning had been completed, was the production of "Under the Frozen Falls," the first successful experiment in Independent Frame.

The studio is controlled by GHW Productions, Rank's oldest production company, which specialises in religious films. In February filming started on two thirty-minute Biblical background films. This followed a location to Transjordan, in which 20,000 ft. of film and 350 still back projection plates were exposed.

Direct Recording on 16-mm.

The first of these films, now off the floor, is "Wedding Feast," a film of the parable. This production was completed in nineteen working days.

"Ruth," the Old Testament story of the love of Ruth for Naomi, her mother-in-law, has now started production.

These films will be technically equal to the best commercial pictures, although they are primarily intended for churches and schools all over the world. They will be reduced to 16-mm. and the soundtrack is being directly recorded in sub-standard in addition to 35-mm.

With regard to artists, the policy is to encourage unknown but competent repertory players—Elspeth March is playing the part of Naomi, and Rita Birkett the part of Ruth.

Unit Credits

The unit list for "Wedding Feast" is as follows:—Producer, Ward Richards; director, Malcolm Stewart; lighting cameraman, Patrick Vinten; camera operator, Frank Ellis; continuity, Betty Worledge; art director, Arthur Bennett; sound supervisor, Pat Heath; assistant director, George Pollard; focus puller, Jim Warner; clappers, Stan Head; dress designer, Chita Bateman; wardrobe assistants, Jenny Benson, James Jordan; make-up, Howard Richmond; make-up assistant, John Webber; editor, Dave Powell; assistant editor, Duncan Spence; production secretary, Joan Head.

The unit list for "Ruth" is the same, except that Donald Taylor is directing, in place of Malcolm Stewart.

THE STUDIO SCENE

Focus on Recovery

British film-making is better established today than it has been at any other time. With the completion of the ABPC reconstruction at Elstree our facilities will total 24 studios. Now, we need a practical demonstration of Government film policy.

Says P. G. BAKER

FOCUS on recovery. Three years ago this month the last shot was fired in World War Two: and British producers faced the future with only eight studios (34 stages of a total 314,581 sq. ft.) in operation. The ABPC studios at Elstree had been a wartime military centre for camouflage work; the MGM-British plant next door was an aeroplane factory; Teddington was put out of action by a flying bomb; Shepperton, the Gate at Elstree, Twickenham, Isleworth, Wembley, Beaconsfield—all had played their part in the war effort by putting their stages to uses other than making films for the kinemas.

Operation Recovery

Now, three years later, Operation Recovery is nearly complete. The ABPC Elstree studio has been completely reconstructed, and the studio industry has made good all its major war losses and is able to face the first year of the new Films Act with all its 1938 facilities—brought up to date.

Nearly half the production facilities were either taken over for Government work or damaged by enemy action; and within three years all that damage plus the inevitable breakdown of administration, has been made good. It is a record which will bear comparison with any other major British industry. And no little credit must go to the Board of Trade. In November, 1945, the Board's films division said that top priority was being given to rehabilitating our studios. Priority was given: and the job's been done.

In the 1937-38 operating period British studios totalled 21, with 64 sound stages of a total 550,082 sq. ft.

By next autumn, when the first four stages at ABPC Elstree come into use, our facilities will total: 24 studios, 71 stages of a total 646,751 sq. ft.

In terms of major feature production there will be 14 studios, having 54 sound stages of a total 577,462 sq. ft. We should be able to produce a little over 80 major features on that space each year and, together with the output from the small studios, British features should reach the hundred mark.

That calculation excludes what are politely called the "featurettes," which just make the feature category and count as exhibitor quota. These are the post-war quickies. There were nearly a hundred "featurettes" registered at the Board of Trade last year. Official returns show that 113 British features counted for exhibitor quota only, the average length of this group being 3,753 ft.

Whether or not we make a hundred major pictures per year (there were 58 big films produced in our studios in 1947) depends on a number of things, particularly the relationships of producers and labour. Those problems were analysed in "Focus on Labour" in the KINE.'s March issue of the Studio section. But, taking a 14-week schedule as average and allowing two main stages per production, a hundred big pictures is not an impossible annual target.

In 1945, working at full pressure, we made only 28. Output has gone up year by year as we reached a stage of full recovery.

I have had the opportunity of watching this recovery programme from the inside. The most important thing is that this has been an all-British effort. Look down the complete list of contracts for the ABPC Elstree studios and see if you can find any foreign equipment or materials.

B of T Policy

Now this is all part of the policy of the Board of Trade. The Government's attitude to importation of equipment has hardened during the recent dollar crisis and film men are being told firmly that no import licence will be granted unless they can satisfy the Board that no piece of British-made machinery can do the same job.

British workmen have been putting in British-made carpentry and steel drilling machines. And, what is more important, British manufacturers are for the first time making cameras, recording gear, lighting and editing equipment which is acceptable to our studios. There are the Newall and Vinten cameras, Hewitt and Mole-Richardson (London) lighting equipment, Acmade cutting-room gear, Boby camera cranes, and so on.

But the situation is not quite so bright as it appears. British equipment manufacturers, faced with a very small home market and a very competitive overseas market, cannot provide every type of instrument at a comparable price with imported goods. Studios do not buy camera cranes or high-intensity arcs each day. And production companies are finding equipment bills very heavy on some types of goods.

Reconditioning the stages and service plants has been the most important job; and while this work has been done, most studios have taken the opportunity of making a number of alterations to bring the plants up to date.

MGM-British, for example, faced with having to put complete new roofs to the stages, took the chance of raising each roof by just over 15 ft. Denham had to refloor one of its main stages, and, at the same time, put in a water tank.

Drastic Improvements

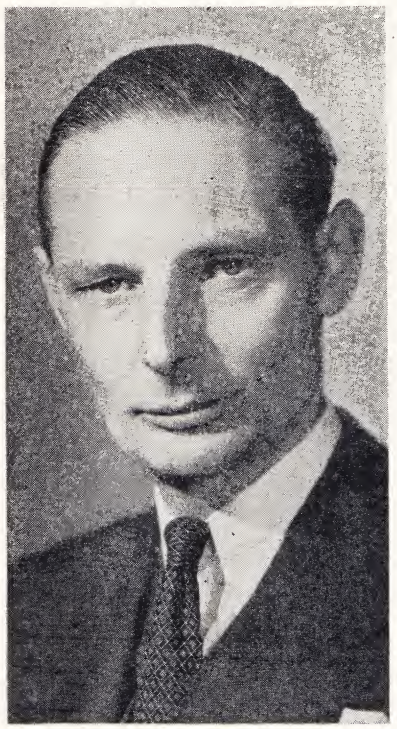
ABPC has been more drastic with its improvements.

Teddington improved the layout of its sound department when the flying-bomb damage was repaired, and improvements have been made at Shepperton and down at Nettlefold.

For the first time in Britain an entire film stage has just been removed by contractors from one studio to another. The silent stage at the London film studio, Isleworth, has been taken down and rebuilt at Shepperton. This stage was used for many famous London films before the war, and Sir Alexander Korda made many of the spectacular scenes from "The Shape of Things to Come" there.

All this work has been completed at a time when building materials and labour are in short supply. Contractors and architects have had to use all their ingenuity to get the work done. There is the fascinating example of the ABPC studios. Timber was almost impossible to obtain, so most of the flooring of the studios and administration buildings has been done with reinforced concrete, made in a factory and brought to the site as required.

(*Continued on page ix*)



ABPC ELSTREE STUDIOS ARE NOW READY

A complete and fully illustrated survey with architectural details and equipment review

Sir Philip Warter writes As chairman of Associated British Picture Corporation, I would like to express the board's appreciation of the expert manner in which the KINE's technical staff has set out the details of the Corporation's studios at Elstree.

This feature will be of the greatest interest to members of the trade since it explains the way in which one of the oldest, and certainly the best known, of British studios has been redesigned on modern lines and is being rebuilt, enlarged and equipped with the latest plant, so that at least the foundation exists for the making of pictures which will, I hope, reflect credit on the industry as a whole.

The prime responsibility has rested on the shoulders of the Corporation architect, W. R. Glen, FRIAS, LRIBA, who has not only had to carry out the research work inherent in this kind of project but has also dealt with the immense detail involved in obtaining and progressing the materials and equipment necessary to ensure the smooth running of the various contracts.

I should also like to express our appreciation for the assistance that has been rendered by the technical staffs of Warner Brothers, RCA, and other firms who assisted in the project.

The reopening of the studios will enable the Corporation to put into operation its arrangements for the production of six major British pictures for worldwide distribution. These will provide valuable material not only for our circuit but also for kinemas throughout the country. Further production plans are under review in order that the most advantageous use may be made of the studios now modernised and re-equipped as explained so comprehensively in the pages which follow.

The Transformation from A—Z

by WILLIAM R. GLEN

FRIAS, LRIBA.
Architect to ABPC

SIXTY THOUSAND square feet of production space is no small asset in these days when a rising British exhibitors' quota and the impetus of the Anglo-American films pact all increase the demand for more and more British production facilities. Well, the task of completely reconditioning and modernising that amount of shooting space and providing all the necessary service and administrative facilities which go with it is nearing completion.

That is the first part of our major plan, which will provide the Elstree studios with four major sound stages, to be augmented later by four additional major sound stages, providing in all eight major stages having a combined production space of 120,000 sq. ft.; to which will be added 24,000 sq. ft. of production space in the form of a process and effects stage, incorporating back projection, and so on.

KINE. readers may find interesting a short review of the work accomplished to complete the stages now ready for production. We had many problems to solve in these difficult times, but C. J. Foster, joint deputy architect to the Corporation, the general and specialist contractors, and everyone acting in an advisory capacity, have gone all out to overcome them.

Within the last two years a transformation has taken place.

In place of the huge bare grey structures of the old studios, a completely modernised sound stage block incorporating four stages, each 150 ft. long by 100 ft. wide by 40 ft. in effective height to main runway beams, together with dressing-room block four storeys in height, has been provided.

Workshops have been modernised and re-equipped, and on the open space where once were lawns and flower gardens, the new administrative block is in process of construction.

On the site of the old scene dock stores and stage block a new sound building (300 ft. long by 50 ft. wide) has been built: it incorporates scoring theatre, re-recording theatre and preview theatre, art studios and other necessary offices.

Of the new buildings, two of the four main sound stages, with the necessary dressing-room accommodation and plant rooms, together with all main workshops and the whole of the sound buildings, are ready for immediate production.

The entire studios were requisitioned by the military during the war years and de-requisitioned in February, 1946.

On May 10, 1946, Robert Davidson, who had been entrusted with the general trades and constructional work involved in the modernisation and reconstruction of the studios, started demolition of the existing internal studios and the stripping of asbestos and iron sheeting to external walls and roofs, leaving only the steel frame structure.

To provide the necessary effective shooting space, the old sound stages constructed inside the external walls of the main structure, together with the existing offices, dressing-rooms, preview theatre, and so on, had to be demolished, leaving only the existing steel frame structure (which we had to retain because of the extreme shortage of steel) to be incorporated in the design of the four new sound stages.

This decision influenced the whole design, involving the planning of all four sound stages adjoining each other under one main roof, a departure from the accepted principle of constructing each sound stage as an independent unit.

A survey of the existing steel structure showed that it would be totally inadequate to carry the increased loads required to meet present-day studio requirements. Consequently, it was necessary to introduce additional intermediate lattice girders at 25-ft. centres with 9-in. by 4-in. steel runway beams at 4-ft. centres spanning between lattice girders, giving a safe working load of approximately 100 tons distributed and slung from steelwork over each stage.

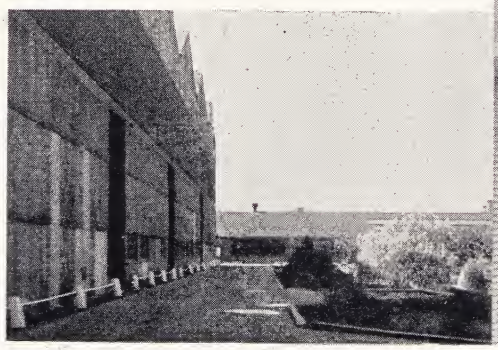
To prevent sound transmission from stage to stage, all steel-to-steel connections have been insulated by means of lead pads incorporating pressed felt packing. The steelwork contract was given to T. C. Jones and Co., and for many weeks gangs of men were employed upon site drilling of existing steelwork in preparation for new steel beam, lattice girder, roof truss, and other vertical and horizontal bracings and connections.

While this work was proceeding, excavations were in hand for new concrete foundation bases to support new stanchions carrying the additional lattice girders, also for foundations for four-storey dressing-room and plant block, soil and surface water drains, power cable ducts, speech and sound cable ducts, telephone cable ducts, and gas and water services. This was no small undertaking, for owing to the clay subsoil, water troubles presented one of the greatest difficulties which had to be overcome. It was also found that existing surface-water drainage was totally inadequate to deal with surface water from the top lot, and in many places had to be reconstructed and diverted.

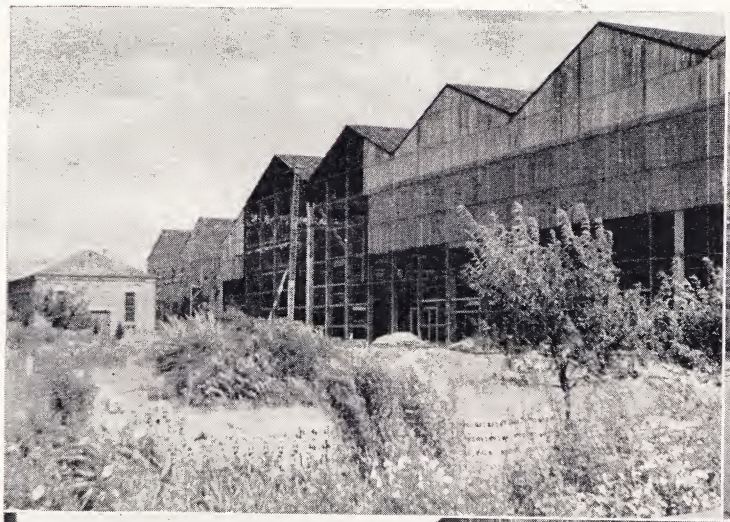
Incidentally, excavations for new foundation to the dressing-room block took place on the spot where a large unexploded bomb had been dug out. Because of the amount of

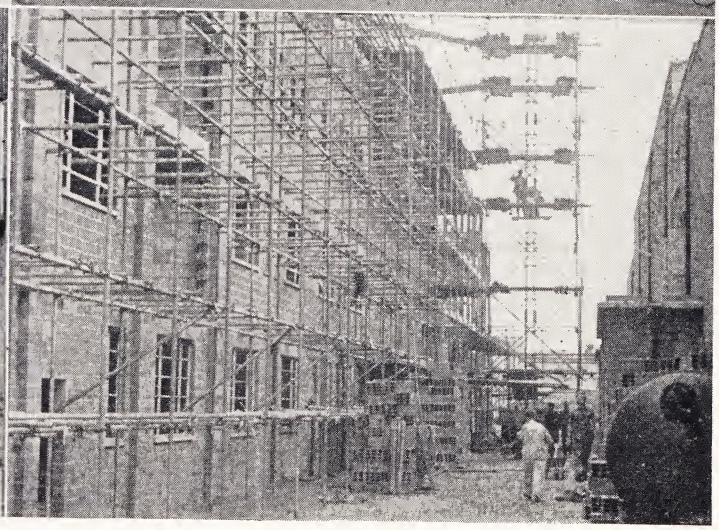
Continued on page vi

The Old Makes Way for the New

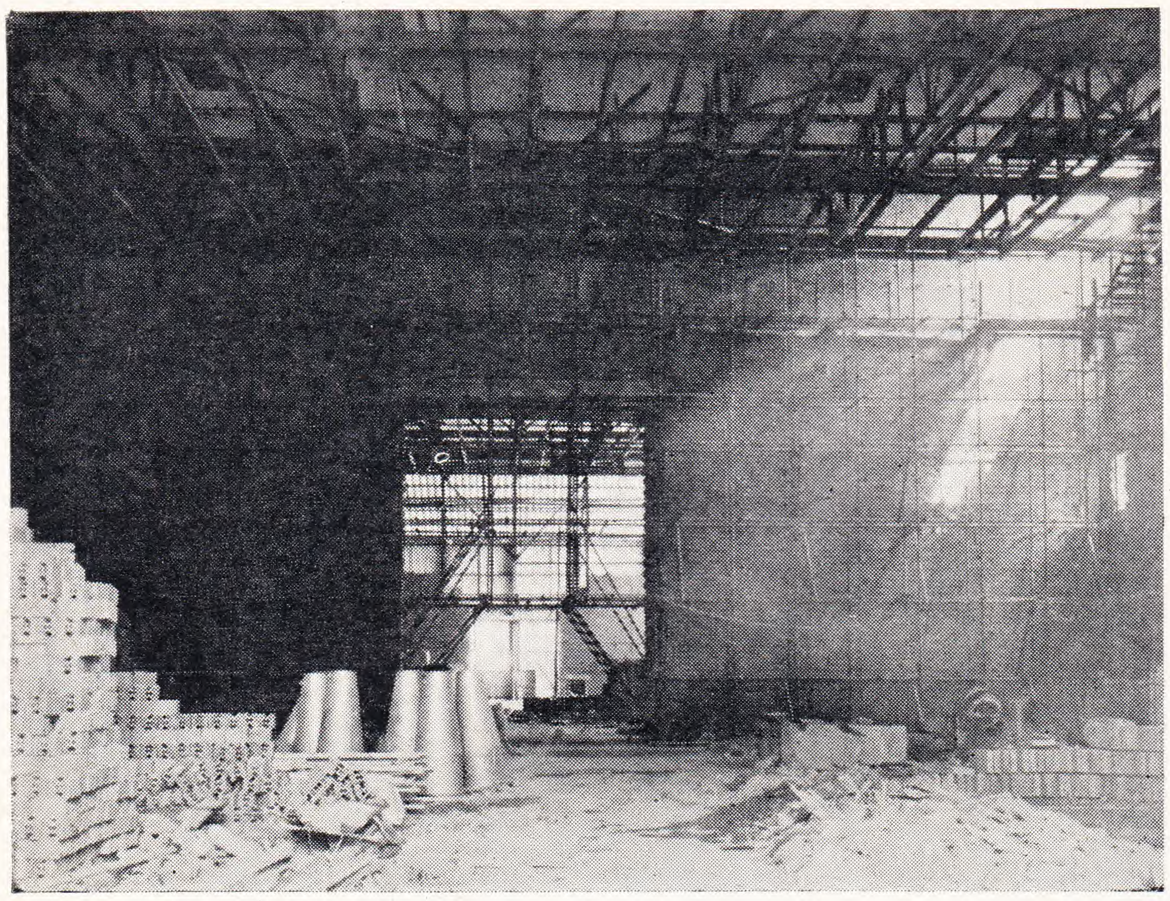


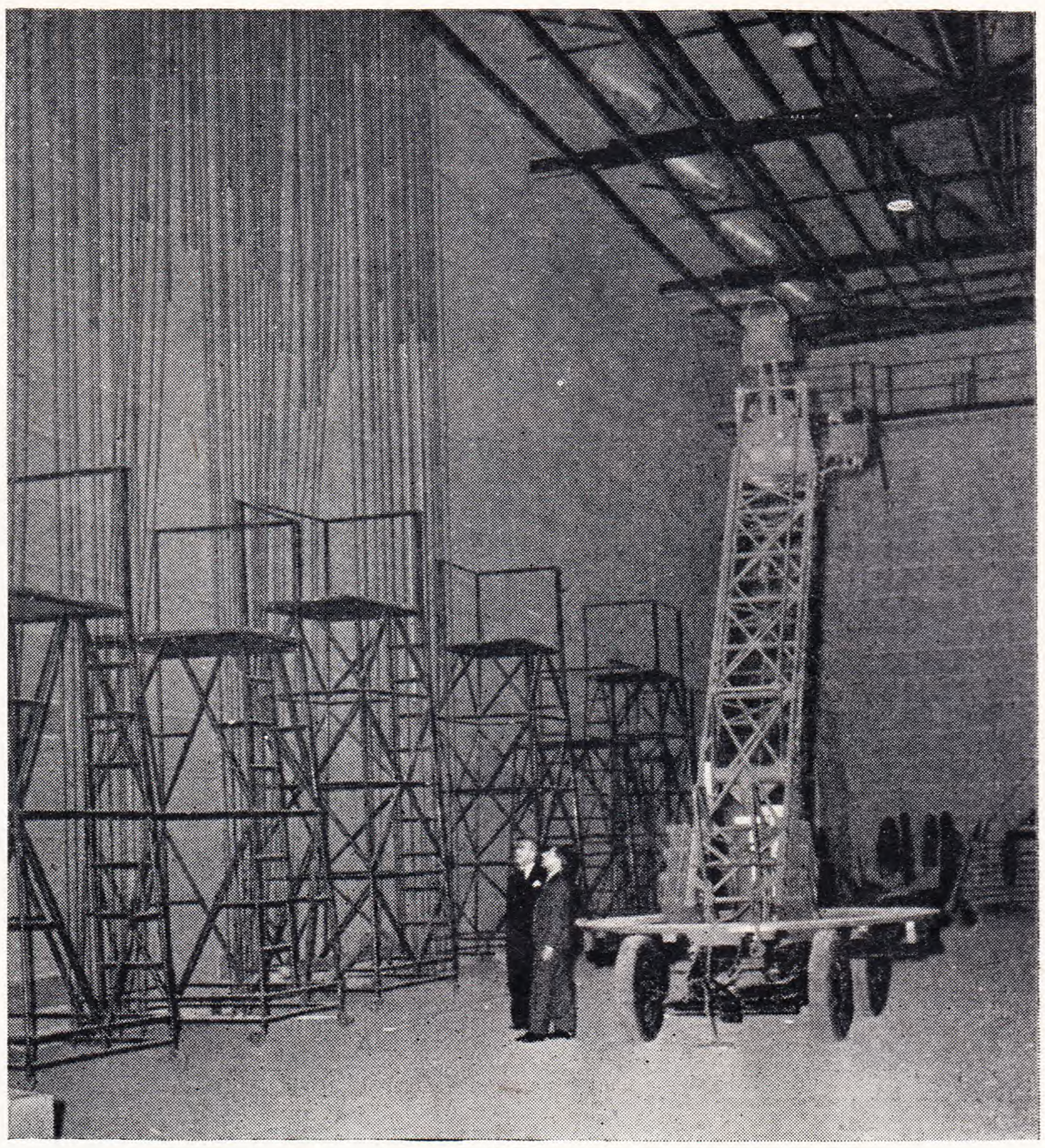
Right : Front of the studio before it was demolished two years ago, and the front as it is today. The stages are immediately behind the offices, dressing-rooms and ventilation plant which run the length of both groups of stages





The centre pictures show the old studios when demolition started two years ago. On the right (centre) is a general view of new studio buildings from the main road. Steel work in the foreground is for the main administrative block. Bottom left : The stages where Alfred Hitchcock made "Blackmail" have been pulled down to make way for a modern recording building, complete with two theatres and a number of ante rooms. Bottom right: Workmen are busy this week completing the reconstruction of the third and fourth stages. On the opposite side is the new recording department





Above: A lot of work remains to be done on the third and fourth stages, but these two will be ready for production before the end of the summer. Right: A time-saving device. The studio has been supplied with a collection of rostrums, all different sizes, so that they can be brought into action by camera and lighting crews at a moment's notice. This saves the time usually taken by building wood and steel rostrums on the spot. This set, next to a new Boby crane, is fitted with rollers to make each rostrum as mobile as possible

TRANSFORMATION FROM A-Z—contd. from page iv

made-up ground filling in the crater, the new foundations were built on a reinforced concrete raft which spans the disturbed portion of the subsoil.

The only services which could be retained undisturbed consisted of one short run of 6-in. soil drainage with connection to the main sewer to which new runs of soil drainage were connected, and runs of 3-in. high-pressure water mains which were adapted and used to provide the required water supply for domestic hot and cold services and hydrant and other fire services.

The Ministry of Works would not let us use ordinary bricks. Consequently, some other form of building block had to be found. Finally, the London Brick Company's "Phorpres" rug-faced hollow-type block was adopted in the construction of the general walling, externally and internally.

For soundproofing purposes, all the walls of he main stages and sound buildings are of cavity construction with a 2-in. minimum clearance around all steelwork, and in the brick cavities are incorporated the main inlet and extract ducts required by the air conditioning installation, combining the heating and ventilating systems.

Insulated Floors

All concrete foundations adjoining stages are insulated from concrete stage floors by means of a 6-in. sand-course filling, and walls are built on insulated reinforced cork slabs to prevent floor noises and ground vibration passing from stage to stage. The roof covering is constructed with an inner lining of 1½-in. thermacoust slabs with a covering of "Trofsec" reinforced asbestos sheeting secured to steel purlins wrapped in felt, supported on cantilever steel roof trusses spanning between old and new lattice girders.

A hyrib and plaster ceiling incorporating combined inlet and extract ducts form an inner lining to the roof void, and projecting metal bracket supports form a basis for securing the 4-in. rockwool internal treatment to provide suitable acoustic conditions for sound recording in the stages.

Likewise, all internal wall surfaces to stages were finished with a similar treatment giving a clean, smooth, continuous surface. A steel mesh, stretched in both directions with a cotton fabric immediately behind, provides a strong durable outer surface to the rockwool.

Before the method of construction of foundations, walls, main roofs, acoustic treatment and steel isolation were finalised, a test chamber was built in a disused air-raid shelter at the Teddington studios. It incorporated two small sound stages for experimental purposes. From practical tests the method of construction adopted was determined.

As soon as the four-storey dressing-room and plant block steel framework were completed precast concrete slab floors supplied by Concrete, Ltd., were soon being placed in position, and following hard upon their heels the electrical contractors, Barlow and Young, and heating and ventilating contractors, J. Jeffreys and Co., were soon fixing electrical conduit and heating pipes. W. M. Walker and Co. put in the "Trofsec" reinforced asbestos sheeting on the redesigned steelwork to main roof.

Work on the main brick walls had hardly reached scaffold height when the job was held up by one of the most severe winters we have experienced. For many weeks the only work possible was the steel erection and preparatory work for when the thaw came. This was the most trying period in the whole of the building operations. After the thaw everyone worked hard to make up for lost time and, with the main stages cased-in and made watertight, it was possible for internal finishings and installations to be started or continued. Horace W. Cullum and Co., given the specialists' work affecting the acoustic properties of the sound stages and the scoring theatres, was soon at work fixing the rock wool treatment to suspended ceilings and walls, soundproof doors and main motorised doors to stages.

Electrical Efficiency

Now a word about the electrical installation. The remodelling of the studios naturally called for a considerable reorganisation. All the AC and DC distribution had to be completely dismantled and redesigned. In the existing power house there were two 750-kW. motor convertors with a 400-kW. mercury rectifier. The mercury rectifier was thrown out and replaced by a Crompton Parkinson 500-kW. motor generator, making a total DC supply for the four stages of 2,000 kW. Separate feeder panels were installed in the power house and cabled to a main sub-circuit breaker fixed at high level in each stage. From this sub-board, copper busbars were installed to three main catwalks, giving each catwalk a capacity of 4,000 amps at 115 volts.

Installed on the catwalks in each stage are 40 portable 300-amp double-pole remote-controlled contactors. The contactors are clamped from any position on the catwalk busbars and remote controlled from a consol on the stage floors.

This consol is also equipped to remote control the whole of the air-conditioning installation, motorised doors, all house lights, telephones, red silence lights and electric locks on all personnel doors. This system was designed and installed in the Warner Bros. studios at Teddington in 1936 and has proved very satisfactory.

By being able to feed each spider box individually from the consol it makes it very easy for the chief production electrician to handle any kind of lighting effects called for by the stage director, at short notice.

Heating and Ventilating

The heating and ventilating equipment was completely dismantled and the whole of the installation redesigned in order to ensure proper combined warming and ventilation on the air-conditioning principle.

All stages have been equipped with hot and cold water, steam, gas, and compressed air services for the inclusion of special effects and for use on sets as required. Drain outlets have been provided in main stage floor for the dispersal of surplus water from sets incorporating water scenes.

There are, by the way, two 30-ft. square water tanks, each 8 ft. in depth and each designed in six main sections. Any or all of the sections may be removed according to the amount of tank area required for shooting rooftop scenes, underground scenes, or water scenes.

For the complete technical details of specialist and other trades and equipment, let me refer you to the contractors themselves, describing their particular interests in the following pages.

STRUCTURAL STEELWORK

in the reconstruction of the A.B.P.C. Studios

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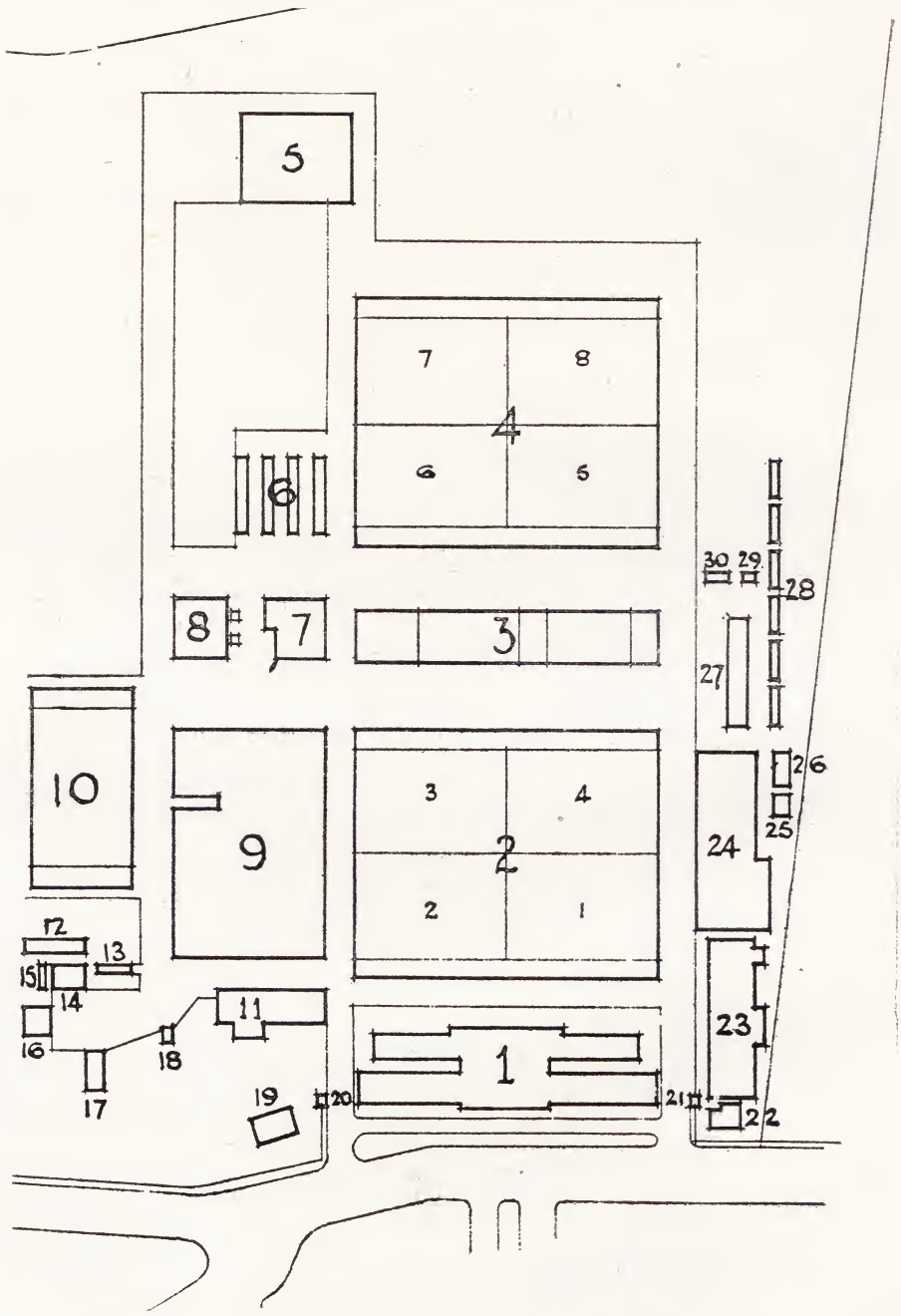
This is Your Guide

HERE is an easy-to-read guide to the new ABPC Elstree studio. The architect has put into this plan, drawn especially for the "Kine.," the complete details of how the studio will be when the second group of four stages has been built.

This is the code to the figures:—

KEY PLAN SHOWING STUDIO LAYOUT



(1) **THE ADMINISTRATION BLOCK,** having its own boiler house and incorporating a private theatre, together with workmen's canteen and restaurant served by a centrally planned modern-equipped kitchen. Ground- and first-floor levels are planned mainly as offices whilst at first floor a large crowd room is provided, serviced by two electric food lifts. The above block, some 300 ft. in length, is sited along the frontage to Shenley road and has a private draw-in for cars.

The ground floor will be for general offices, having two main entrances serving three suites of offices, two of which can be placed at the disposal of a renting company hiring studio space. Grouped centrally within the main block will be a large preview theatre to accommodate 200 people, suitable for private trade shows, and equipped and furnished in the most up-to-date way. The first floor will house the balance of general offices and executive offices.

(2) **MAIN SOUND STAGE BLOCK.** This building comprises four stages, each 150 ft. x 100 ft. and 40 ft. in height from floor to the shoe of the lattice girders. Above the level are situated the main walkways. Runway beams are provided at approximately 4-ft. centres, whilst at their termination some 5 ft. away from the main walls either end two transporters are provided running the full width of the stage. Each stage is provided with three sound lock doors with electric working device, whilst the main props and set doors, 17 ft. high and 14 ft. wide, are electrically controlled and sound-proofed by means of rubber cushions and toe guide with rockwool packing internally. Two stages are equipped with a water tank 30 ft. x 30 ft. x 8 ft. deep and having a soundproof removable floor. Numerous holding down rungs are provided in each tank.

All stages are grouped under one main roof —a double 6-in. hollow brick wall with a 1 ft. 10 in. cavity separating one stage from another and extending to a length of some 300 ft. along each double stage. Dressing-room and plant-room blocks, four storeys in height, run along this length.

The ground floor of this block includes the wardrobe rooms, hairdressing rooms, retiring and rest rooms, bays for sound trucks, dark rooms, camera rooms and directors' offices.

The first floor has female star artists' rooms (eight in number), each having spray and shower compartments; two rooms for small-part artists, equipped with sprays and showers; two large crowd rooms with spacious wash-up, spray and shower rooms adjoining.

On the second floor are the male star artists' rooms (eight in number), all similar to the first-floor rooms, including crowd and small-part rooms.

The third floor will accommodate air conditioning and other plant rooms. Each studio is acoustically treated on the latest principle to ensure perfect sound reproduction.

The air-conditioning plant, comprising eight distinct units (one unit for each studio), each unit separately operated by remote control, is novel in design and should provide an exceptionally high standard of efficiency. An even temperature will be maintained at all times by thermostatic control.

(3) **MAIN SOUND BUILDING,** separated from the main film stages by a private roadway, incorporates:—

The scoring theatre and monitor room suite, especially designed and treated internally to ensure the recording of perfect sound, will provide facilities for an orchestra of 70 or 80 players, together with the required chorus and solo-artist chambers, monitor room and other accessories.

The recording theatre and projection room suite, designed and equipped on the most up-to-date lines, should provide the highest efficiency required in modern production.

This wing also includes echo chambers, preview theatre for staff, dolly store, sound workshop, disc and camera rooms, a scenic artists' studio, art department and stills room.

(4) **MAIN SOUND STAGE BLOCK.** The studio has a long-term policy, which includes the building of four additional film stages located on the land behind the scoring and re-recording theatres. These will be similar to the stages now ready for use.

(5 and 6) **NISSEN** huts and hangars for storage purposes.

(7 and 8) **TO THE** northern end, and independent of the sound building, is the plasterers' shop and main boiler house. An addition to the boiler house is proposed in order to cope with increased demands.

(9) **THIS BUILDING** comprises a modern machine shop adjacent to main preparation and assembly bays, 100 ft. by 100 ft. by 40 ft. high, incorporating the necessary equipment for the preparation of set construction. It is

sited away from the main stages, but is connected by a covered way, the steelwork construction of which is divorced and insulated against possible noise disturbances.

The sets are transferred to the main stages by means of dollies.

Contained within this building are plumbers', painters' and electricians' shops. A sawmill situated within the machine shop deals with any bulk timbers. Two compressors, also contained within the machine shop but in a separate housing, feed air level to the main stages. Heating is provided by unit heaters.

(10) PROCESS STAGE. Incorporating large tank for water-scene process shots, with the following departments: insert, matte, optical print room, and general equipment stores. The whole purpose of this stage is for special effects and trick photography. It will not be built immediately.

(11) ELECTRIC POWER AND SUB-STATION. Situated adjacent the machine shop is the electric power and substation which serves all main buildings. Numerous cable ducts have been provided and, as a result, many existing services had to be diverted.

(12) "LAING" HUT.

(13) NISSEN HUTS.

(14) GARAGE.

(15) REPAIR SHOP.

(16) FIRE STATION.

(17) STORE SHED.

(18) FIREMEN'S REST ROOM.

(19) PRIVATE RESIDENCE.

(20 and 21) TWO MAIN control points constantly manned are provided to the studios. These offices are equipped with a main control panel to which is connected a main master switch, fire and burglar alarms, together with night 'phone lines.

(22) TEMPORARY OFFICES.

(23) WORKMEN'S CANTEEN. An original canteen modernised. Additional cooking apparatus has been installed and the area replanned for waitress service. Two canteens and a private canteen have been provided.

(24) LABORATORY. An existing building modernised and replanned for housing of the latest equipment. It has its own boiler house, together with 35-mm. positive developing and drying rooms, negative drying room, negative and positive examination room, private theatre, grading room, and chemists' laboratory. It is sited to the south of the main stages.

(27 and 28) CUTTING ROOMS, FILM VAULTS. This building, adjacent to the laboratory block, contains a camera-loading and stock-issuing bay, together with dubbing, editing, library and technical check-rooms. The reception and outgoing office is in the centre. Film vaults are at the rear of the building.

Thomas Will Direct ABPC Publicity

As the first step in a plan to improve the public relations side of Associated British feature productions, William Moffat, managing director of Pathé, is delegating responsibility for all publicity, advertising and public relations to his producer-in-chief, Howard Thomas.

In the general policy for publicising Pathé and Associated British feature productions, Thomas will direct both Jack Griggs, the publicity manager, and John Parsons, of production department, who has been appointed public relations officer.

The pictures of the new ABPC Elstree studios are by

JOHN TAYLOR

of the Welwyn (ABPC) stills staff.

Men Who Will Be at the Helm

Initial Staff of About 350-400 Employees

SO far, the studio has no permanent staff. Robert Clark, ABPC director and production executive in the absence of Max Milder, tells the KINE. *that he is completing contracts this week, and hopes to be able to have the line-up of studio personnel ready by the end of the month.*

The studio will carry an initial staff of about 350-400 employees.

Alex Boyd, who joined ABC as chief accountant in 1930, is expected to have a senior administrative job. He has recently returned from Warners' Hollywood studios, where he made an extensive six-month survey of production methods.

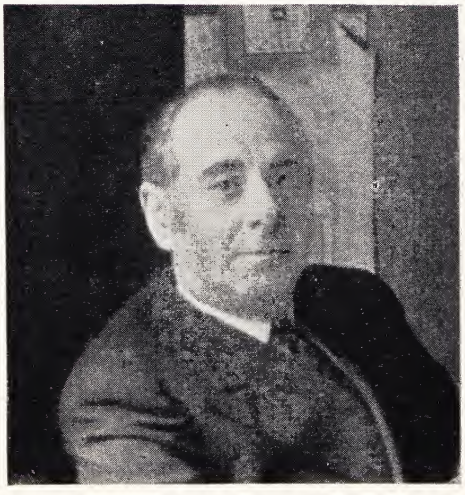
Joe Grossman, who entered the industry as a programme boy and joined John Maxwell at the present studios in 1921, when they were controlled by BIP, is expected to have another senior post.

Grossman has done a lot of work during the reconstruction of the studios, especially during the initial period of demolition and laying out the foundations for the new buildings.

Vaughan N. Dean, studio controller at the ABPC Welwyn studios, has been working with Alex Boyd on the production side at the Elstree studios during recent weeks. He entered the industry in 1930 as production manager to a BIP associated company.

ROBERT CLARK

ALEX BOYD



JOE GROSSMAN

FOCUS ON RECOVERY

continued from page iii

Other studios have had to combat similar problems.

Now we have to face the future.

British film making is better established today than it has been at any other time. Because of that, producers are anxious to expand and bring into operation additional stages and service buildings to speed up production and to help keep down costs.

But for the moment the Board of Trade has called "halt." Few licences have been granted to studio work other than repairs to war-damaged property. Sound City and MGM-British both have new building jobs in hand—scene docks, special effects stage and so on. But ABPC has not been granted a licence for its second group of stages, and other producers are being told politely: "No."

British film production will only be an effective competitor to foreign films in the British market when our output is at least doubled. Until then we shall always need the protection of the Films Act. Output cannot be doubled until more stages go up. That will not be possible for some time yet.

The next few months will be important, for during that time film men will see a practical demonstration of Government film policy. What happens at the meetings of the new Films Council, the exhibitor 45 p.c. quota, the operation of the Anglo-American films agreement by the Control Committee, the work achieved by Harold Wilson's National Joint Film Production Advisory Committee, and the findings of the promised Government inquiry into renting and exhibition—these are the things which will affect everyone's future.

We've put our house in order: what now?

A TRIUMPH FOR BRITISH WORKMANSHIP

NEARLY one hundred contractors have been engaged in the job of putting the ABPC Elstree studios into production order. Some of them have provided such things as concrete floors or specialised acoustical treatment to the sound stages; others have supplied cameras, arc lamps or film splicers; and still more contractors have contributed everything from cups and saucers to wardrobe pins. This is the story of their efforts, providing a complete record of the construction, equipment and services which, together, have created one of the finest production plants in the country. This is the record of a job which, from recording theatre to powder-puff, bears the stamp "Made in Britain."

CONSTRUCTION

Steelwork

W. R. GLEN made his survey in August, 1945, and called upon **T. C. Jones and Co.** to take part in the inspection of the existing steelwork, in the absence of original drawings, and to give advice on the special requirements of steel construction and on the most economical method of adapting the structure for modern film production.

The major job was to modernise the main studio building. The contract for the supply and building of the necessary steel framework was placed with T. C. Jones in February, 1946, and work on the site began in June of the same year.

The main studio building was originally constructed for silent film production. When it became necessary to soundproof the stages for talkies, a small insulated building had been put up inside the main structure. As the whole of the main studio building had now to be soundproofed, the secondary building was removed.

The new scheme required the construction of four separate studios within the main structure. The roof structure had to be strengthened to carry the increased deadload of double-skin soundproofing, and the weight of the network of runways supporting the various moveable sets. To economise in the use of steel, as much as possible of the existing roof structure was retained and was strengthened like this: Intermediate lattice girders were fitted in each 50-ft. bay, that is, between the existing lattice girders. This halved the span of the cantilever trusses. The existing cantilever trusses were then shortened accordingly and new trusses were fitted as necessary. The extra weight to be supported necessitated the strengthening of some of the stanchions, and particular attention was paid to the increased loading on the foundations.

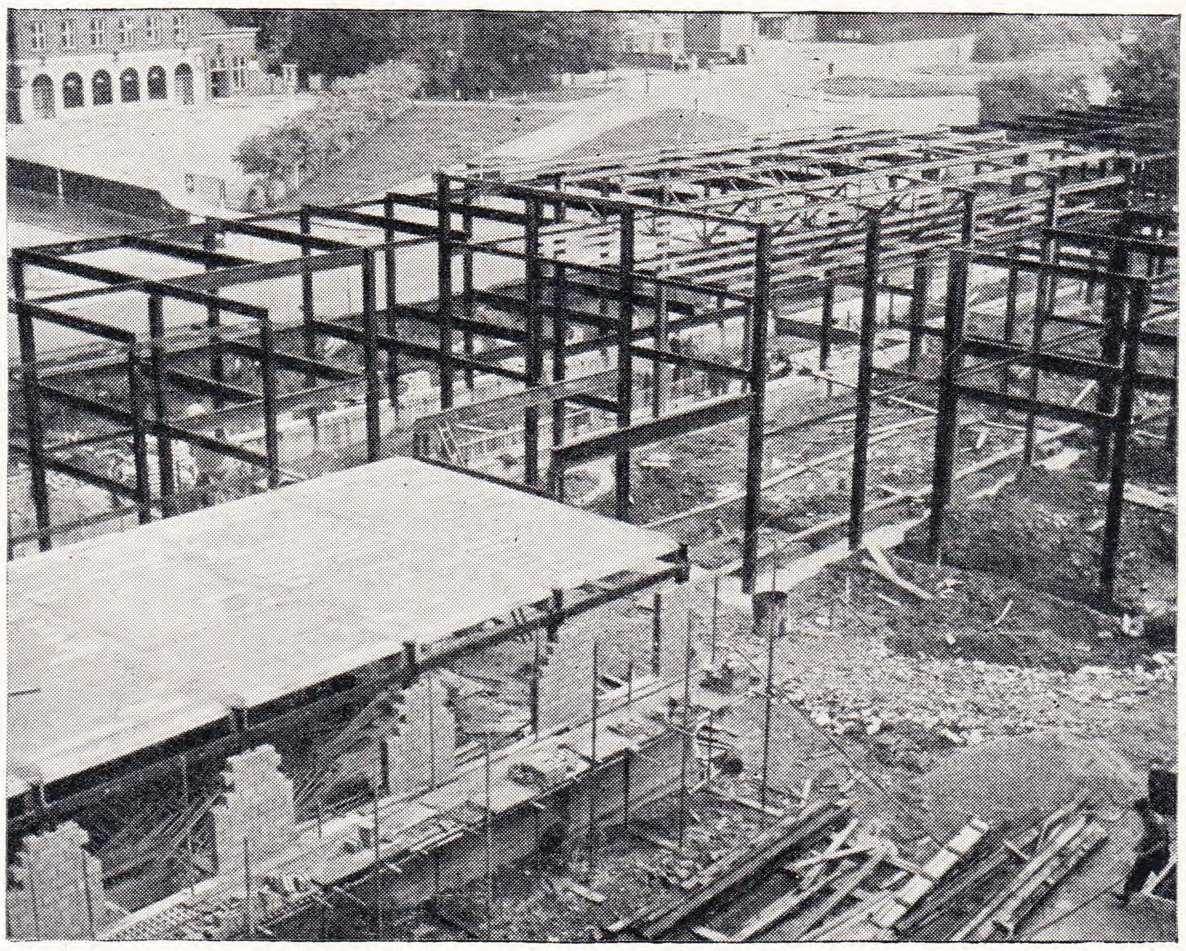
To save time and cost, all these alterations were carried out on the structure without dismantling.

The steel framework of the first half of the new studio block and dressing-rooms was substantially completed in March, 1947, and that of the remainder in March, 1948.

More than 500 tons of steel were used in the work on the four studios and the new dressing-room blocks.

The contract for the new scoring, re-recording and preview theatres, with various offices, was placed with T. C. Jones in November, 1946.

This building is 300 ft. long, 50 ft. wide and 25 ft. to eaves.



The framework of the new administration building which is going up immediately in front of the new stages

The centre portion of the roof was raised 6 ft. 3 in. to give additional headroom for the scoring theatre and the whole roof structure was strengthened to carry the additional loading of the insulated, double-skin roofing and ceilings. Here, again, as much as possible of the existing structure was retained to economise in the use of steel.

All of the trusses were retained and strengthened by additional lattice girders and necessary braces. The result was that only 90 tons of steel were used in the work, which included the provision of new steelwork to support intermediate office flooring in some parts of the building.

In March, 1947, T. C. Jones began work on the steel framework for the extension on site of the existing workshop and stores building. This involved the addition of a structure 140 ft. long by 50 ft. wide, 17 ft. high to eaves, together with supporting steelwork for an intermediate floor, and was completed in October, 1947.

The contract for the comparatively straightforward modern steel framework of the new administration block was placed with the company in October, 1947, and was completed last March. One hundred and forty tons of steel were used.

Acoustics

THE TWO main features of the sound block are the scoring stage and the re-recording theatre. The scoring stage has a volume of approximately 100,000 cubic feet, a size considered adequate for a fairly large orchestra. Associated with the stage is a vocal room and a chorus room, both with a direct view of the stage, but sound isolated from it so that separate tracks may be recorded if required.

A monitor room is adjacent also, the mixer having a good view of the centre of the stage on his left, while he faces the monitor speakers at the other end of the room.

The acoustic treatment of the stage consists largely of curved plywood splays on walls and ceiling alternating with absorbent surfaces: this follows recommendations made by Michael Rettinger, RCA's foremost acoustic designer in the United States, who has used this treatment with very satisfactory results in a number of stages in Hollywood and elsewhere.

Good Example

THE ELSTREE stage is an interesting example of how effective this purely functional treatment can be from the point of view of its decorative possibilities.

The design of the re-recording theatre resembles very closely the Walt Disney theatre in Hollywood (well-known for its use as a review theatre for Academy Awards). As it will also be used for a certain amount of post-synchronisation work some variation of acoustic conditions has been made possible by means of adjustable panels on the side walls.

During constructional work RCA engineers are carrying out a series of detailed acoustic measurements with a view to slight final adjustments of the various treatments: this is now generally acknowledged to be the only sure method of obtaining the best acoustic requirements.

This applies not only to the scoring stage and theatre, but also to the monitoring, vocal and chorus rooms.

Horace W. Cullum was responsible for the constructional work affecting the acoustics of the sound stages, scoring stages, and so on.

The rock wool system was in-

Continued on page xiii

Workmen are busy repairing the roof of the laboratory, which is being brought up to date to meet all production requirements on the spot

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ACOUSTICS—*continued*

stalled on the walls and ceiling in order to provide suitable acoustic conditions for sound recording in the stages and, in the scoring stage, this treatment was combined with the system of poly-cylindrical diffusion with panels and fixings varied to distribute resonances over the frequency band.

The rock wool treatment is capable of variations in the proportion of high-frequency absorption, if it is found necessary to adjust the reverberation period either up or down.

The semi-rigid slabs of rock wool possess very high absorption over the bands of frequencies where it is normally most necessary, and the binder maintains the fibres at their chosen density in order to avoid any subsequent variations.

The surfaces treated with rock wool present a clean, smooth continuous surface, and with the steel mesh stretched in both directions, present a strong durable surface. The cotton fabric immediately behind the steel mesh is selected for its transparency to the audible frequencies which it is desired to absorb. It is fireproofed and also stretched without visible joints over the whole area.

The wood fixings in this construction are reduced to a minimum consistent with efficiency and strength and are embedded in the rock wool treatment.

Quick Work

The speed of this construction was particularly noted and the simplicity enabled the many trades engaged on this important project to work side by side to produce the satisfactory result now achieved.

This firm also supplied Acousti-Celotex tiles for the preview theatre and monitor rooms, and collaborated with the architects and the vibration engineer, who had the problem of ensuring adequate isolation between the stages, which are grouped under one roof.

Model Roof

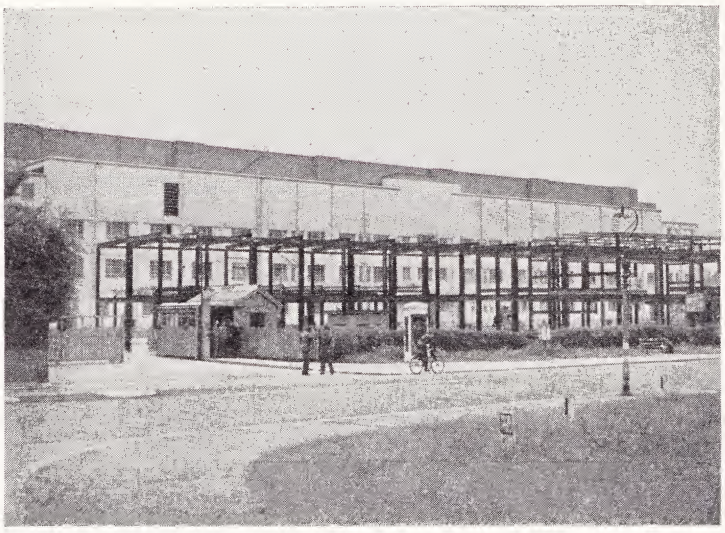
Models of the studio roof were made to find out the type which would best deal with high and low frequency sounds, loss of heat, and so on. This job was part of the service provided by **W. M. Walker,** the London roofing contractor.

The roof specification is, briefly, an outer roof covering ⅜ in. thick of grey colour reinforced asbestos-cement sheeting sealed in bitumen and superimposed on high thermal and sound absorption slabs.

The contact surfaces of steel angles are layered with heavy felt and are between roof-fixing bolts.

All steel windows and casement doors have been supplied by **Henry Hope and Sons,** of Birmingham. They are rust-proofed by Hope's hot-dip galvanising process, which was adopted by the company after long and repeated trials of every known method of rust-proofing mild steel.

In addition to being rust-proofed by this process, Hope's windows at Elstree are manufactured to the highest interpretation of British Standard Specification No. 990, 1945.



General view of the new building from the main road

Heating and Ventilation

IN ORDER to ensure proper warming and ventilation of the main stages it was decided to provide alternative means of introducing the air. Due to the fact that the walls are more often than not encumbered with sets and loose pieces of scenery, it was inadvisable to blow air in at a low level. One factor which decided the ultimate scheme was that the time actually taken for shooting was only a very small portion of any one day's activity on the stages.

It was decided to introduce air through a system of high-speed nozzles at each side of the stages with part of the exhausted air being taken out on the side walls and the remaining portion at high level. When shooting is taking place a system of dampers, operated by remote push-button control, changes the air circulation so that all the entering air will be introduced through the grilles on the side walls originally used on the exhaust plant.

Further remote controls can be used at the same time to reduce the air input to as low as 50 per cent of the original quantity, so that under shooting conditions ventilation of the stages need not be entirely cut out.

Each stage is provided with its own complete ventilation and warming plant; practically the whole of the top floor of the office section of each stage is given over for housing the plant. Air is drawn through adjustable sheet-metal louvres, whence it passes through a preheater, then through a mist type air washer before being warmed finally by a main air heater.

Automatic controls maintain the dew point conditions and stage temperature during the winter months by control of the steam input to the preheater and the main heater.

During the summer months, evaporative cooling is obtained through the air washer by an amount equal to 70 per cent. of the difference between the outside wet and dry bulb temperatures.

After the air leaves the main heater it can be passed through a large area fog filter if the conditions demand this treatment, or alternatively be by-passed around this filter on its way to the suction sides of large slow-speed double inlet centrifugal fans.

The fog filter by-pass is controlled by adjustable sheet-metal louvres, which can be automatically operated by push buttons from the stage itself. The air is then discharged by the fan through a silencing chamber and thence through a system of air ducts to provide connections to the series of nozzles at high level on each side of the stages, these ducts being formed of ample proportions in reinforced plaster, both the inside and outside of which have been smoothed.

Exhaust Air

A further system of similarly constructed ductwork gathers the exhaust air together, finally connecting through another silencing chamber to the suction side of a single inlet pattern slow-speed centrifugal exhaust fan, which in turn discharges the vitiated air to atmosphere.

Further adjustable louvres provide for recirculation at the washer inlet, so that the heating-up period can be reduced to a minimum; but the plant has not been designed to use recirculated air under normal running conditions.

All motors are of the super silent pattern and those driving the fans are suitable for a speed reduction of 50 per cent. by rotor regulation.

The total weight of air introduced to each stage amounts to 85 tons every hour.

All this work was done by **J. Jeffreys and Co., Ltd.,** 195, Waterloo Road, S.E.1, who also designed the equipment.

Each pair of stages is complete with two floors of dressing-rooms and offices (over which the main plant rooms are situated), and these portions of the building are warmed throughout by means of low-pressure hot-water radiators on a pump-circulated piping system which derives its hot water from a steam-fed calorifier. This is another part of Jeffrey's work.

A large hot-water storage calorifier, also steam fed, provides hot water through a further system of pump-circulating mains to all sinks, lavatory basins, baths and showers in the dressing-rooms, all of the shower fittings being provided with thermostatically controlled mixing valves.

The sound building has been practically divided into equal parts to form two theatres: one for scoring and one for re-recording. As these two theatres are likely to be used at separate times, a complete ventilating and heating plant is provided for each. The plants for these portions of the buildings are capable of providing a total of 55 tons of air every hour. Mechanical exhaust is provided to extract 75 per cent. of this air quantity and discharge to atmosphere. No recirculation of air is catered for in these two plants.

Each system is provided with a sheet-metal air-washing plant, together with preheater and main heater, and automatic controls govern the dew point and room temperatures during the winter months by control of the steam supply to the heaters. Both the inlet and exhaust fans are of the slow-speed type driven by super silent motors which are provided with speed variation to reduce the speed of the fans by 33⅓ per cent. Carrying the question of silent operation further, it was decided to line the inlet and exhaust trunking for a distance from the actual fan connections, so that any small air noises emanating from the fans would be absorbed before reaching the inlet or outlet grilles.

The remaining portions of the buildings are all warmed by means of hot-water radiators and pipe coils fed through three small steam-heated calorifiers on pump-circulated circuits.

The three existing economic type boilers situated in the boiler house provide steam at 40 lbs. per square inch pressure for these ventilating and heating plants; but it has been necessary to provide new trunk steam mains and return condense lines from and to the boiler house. Automatic condense return pumps are used to return the condense water to the tank in the boiler house and conservation of heat is made by the insulation of all steam and condense piping.

Cooling

THE INDUCED draught cooling tower has been designed and constructed by **Film Cooling Towers** for the purpose of cooling the jacket water on oil-fired prime-movers.

A 38-in. diameter axial flow fan, manufactured by **Woods, of Colchester,** and fixed at the top of the tower, forces 12,000 cu. ft. of air per minute through the cooling stack of the tower, which has been

Continued on page xv

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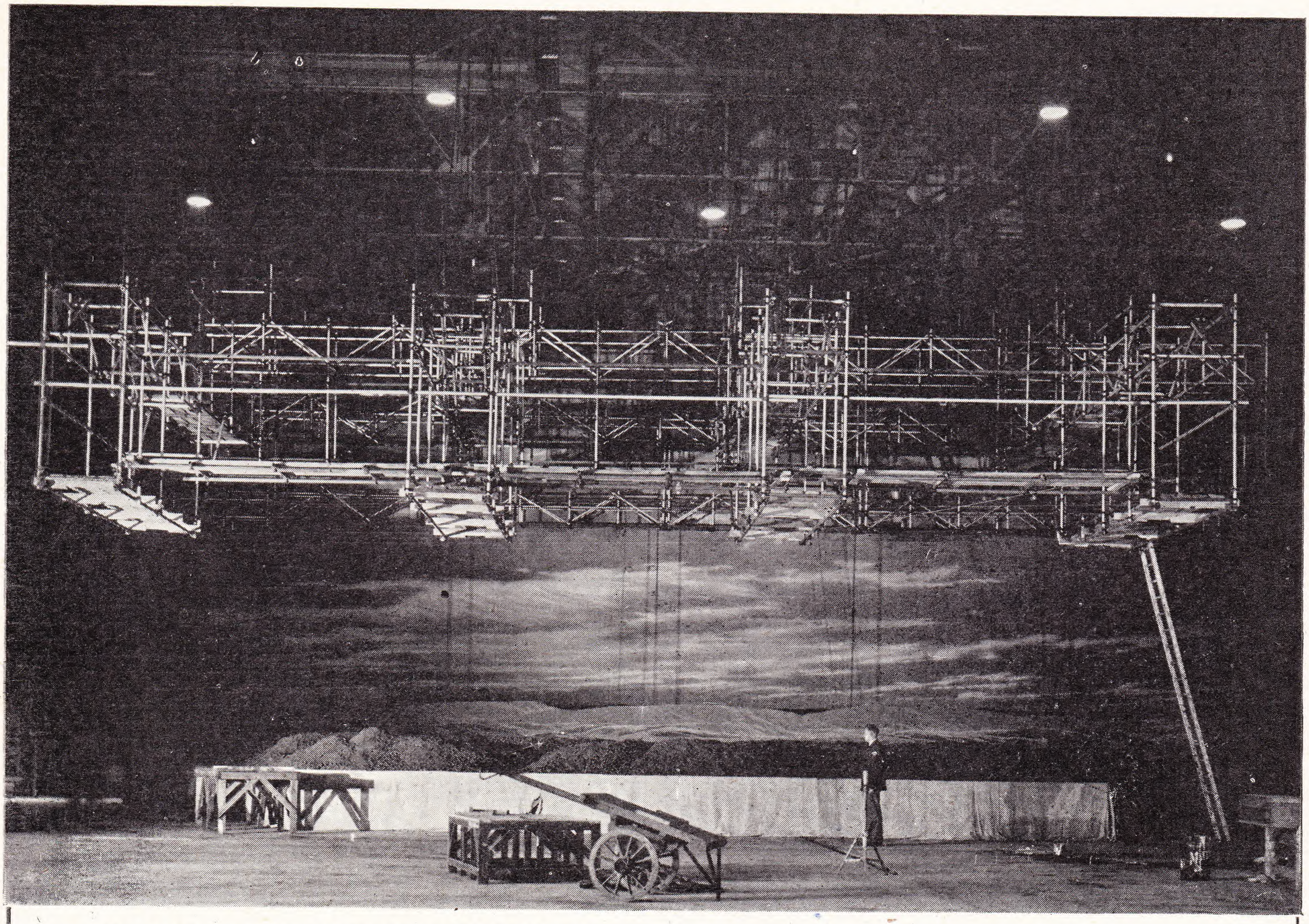

TUBULAR SPOTTING IN THE NEW SILENT STAGE—SHEPPERTON. *By kind permission of BRITISH LION STUDIO CO. LTD., Shepperton*

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COOLING—*continued*

designed to cool 2,700 gallons of water per hour from 135 deg. F. to 90 deg. F., at a dry bulb temperature of 55 deg. F. and a relative humidity of 75 per cent. of saturation.

The complete structure is of timber.

The company claims that as a result of considerable research by one industry, the equipment installed at the Boreham Wood will be completely free from precipitation of water outside the tower, which hitherto has always been a nuisance factor in mechanical draught-cooling towers.

Decorations

DOOR FITTINGS required for the kinema, restaurant and the offices of the studios were supplied by **Stedall and Co.**, of London.

These included a number of special cross-bar ornamental door handles to the architect's specifications, floor springs, overhead springs, panic bolts, suited locks, and everything is in matt chromium finish.

Much of the interior decorations were done by **Roffe Decorations**, of London. The dressing-room blocks in Stages 1 and 2 were treated with spray in oil-bound distempers and texture paints.

Furniture has been finished in cellulose colour to match walls.

Mr. Turner, of the ABPC architectural department, supervised the special decorative treatment given the three theatres. This was another spray job.

Roffe Decorations has treated the sound buildings with a serviceable paint and distemper.

Flooring

CONSTRUCTIONAL floors and roofs, of which there are 6,300 sq. yds., were an important part of the job. Two factors had to be considered: The importance of speed and the shortage of timber.

It was, therefore, decided to use a **Bison Precast Floor**—reinforced concrete units, made in a factory and brought to the job as required. This floor is put up without temporary timber "formwork," and as soon as the units are laid on their bearings and jointed, the floor is complete and ready for other trades.

Indeed, it immediately forms a platform for bricklayers and others, and protection from rain for the workers below, enabling them to get on with their job without interference.

There is no waiting for the concrete to harden, because the units arrive in a matured condition, and all the skilled work is done in the Bison factory. Thus, site congestion is relieved and the job proceeds more smoothly.

IT SPEEDED UP CONSTRUCTION

Workmen unloading Bison precast units for the studio flooring. The material was used to save timber and to speed up construction by prefabrication. Work was done by Concrete Ltd.

EQUIPMENT

Sound Recording Facilities

THE STUDIO will use the RCA sound system. This has been planned for maximum flexibility and easy expansion as further sound stages are brought into use. A separate sound building, centrally located, has been built to accommodate this service and will house sound department offices, workshop, test-room, reverberation chambers, recording rooms, scoring stage, re-recording theatre, scoring monitor room and one preview theatre.

Three of the five recording channels will be truck mounted to service studios or location requirements. Bedford chassis fitted with special bodies have been selected for this purpose. Space is provided for disc recording equipment in addition to the film recording channel, power conversion plant and accessory storage.

Disc for P.A

If needed, the disc equipment can be used for public address, and for this purpose a maximum of 50 watts is available in the power amplifier unit for driving the weather-proofed horn radiator.

The sound tracks are entirely self-contained regarding power supplies and can operate continuously at locations remote from supply mains by utilising petrol electric generators installed in the trucks for battery charging. Conversely, where mains are available, the units are designed to operate directly from this source.

Sound monitoring is provided by means of RCA speakers of a new design, giving a frequency response of from 50-15,000 cycles per second while maintaining an exceptionally wide angle of distribution up to the highest frequencies.

Mixing can be carried out either inside the truck or from a distant point by means of a four-position mixer console connected by cable links to the main amplifier system.

Each of the four sound stages will be provided with a sound truck garage. Here, the trucks are connected through to the appropriate stage by means of plug connections to a conveniently located distribution frame. On the stage, the floor-recording console is connected to a suitable point by means of cable links. Provision is made for a Selsyn interlock system to each stage for the purpose of carrying out back projection pending the construction of a special process stage.

Each garage is connected by underground tie-lines to the main sound building enabling a complete interchange of functions to be made between this building and the sound stages.

In the sound building, these tie-lines terminate on a patch bay in the transmission room. To this room are taken tie-lines from all the various sound channels in the studio. Thus, the transmission engineer, acquainted with the set-up required for a particular session, has everything under his control for making the necessary circuit arrangements. At the same time, by means of a comprehensive service telephone system to all parts of the studio, he can be advised immediately of any change of schedule or other requirements.

Central Control

This method of centralised control has been devised as the most convenient method of dealing with the comprehensive transmission network obtaining at a major studio.

The recording activities in the sound building are mainly divided between music scoring and re-recording. As disclose in the notes on acoustic treatment appended to this article the music scoring stage has two vocal rooms and a monitoring room associated with it.

The scoring mixing console can be used either as an 8-way console for orchestral recording or as two 4-way consoles for making separate negatives of orchestra and vocal recordings. A special mixing device enables a mix of the two sound tracks to be monitored while the recording is being made.

Comprehensive signal devices are employed, so that the recordist has visual indication of the position existing at any of the stations under his control. In addition to the normal telephone communications, a loudspeaker talkback system is installed. By the flick of a key communication is immediately established between any stations, while the recordist has the means of breaking in on any conversation or of group calling, whereby all the remaining sub-stations can be addressed simultaneously. A special selector unit, centrally located, enables the stations to be grouped in any desired manner.

Orchestra's 'Phones

Facilities are also available for: Headphone outlets to both the vocal rooms and the conductor, whereby may be heard, say, a guide track from film or the outputs of either of the two channels. Headphone outlets for all members of the orchestra up to 60, and for soloists and members of the chorus.

The conductor's rostrum, mounted on a mobile platform, is connected by cables to provide signalling and talk-back facilities.

Disc recording and playback is a feature provided for on all recording and re-recording theatres and stages.

The provision of interlock motors allows recordings to be made in synchronism with guide tracks and for playing back under similar conditions. This feature is of great value in music scoring, and by its means results in much saving of time.

The disc machines are provided with a vernier adjustment groove locator and a so-called "crash-start" device, so that a disc can be played back, starting at any point desired. This "crash-start" can also be operated from a remote point. The output of the disc equipment is arranged to pass through the scoring console where it may be mixed with any other signal source.

Scoring Theatre

For other uses a single-phase synchronous motor may be interchanged readily in place of the Selsyn unit.

Scoring theatre reproduction is made by means of a LG.230R equipment comprising two combined picture and soundheads fitted with preview attachments.

The recording channel has been carefully planned for convenience and ease of operation. A similar equipment rack layout to those in the sound tracks has been arranged, so that an operator transferring from one channel to another immediately feels at home. A similar arrangement is made in

Continued on page xvii

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SOUND—*continued*

the case of the re-recording channel.

The re-recording section of the sound building consists chiefly of a re-recording console, re-recording channel and an 8-headed LG.230R reproducing system.

The console is made to contain equipment for 12-way mixing, this allowing for future extensions.

An automatic selector, operated by means of relays, enables frequency correction to be pre-selected and brought in at any desired time.

Two channels of compression are provided with arrangements for introducing these into any mixer lines.

Background Control

Another feature is background suppression, enabling a sound-track to govern the level of any other to a predetermined amount. Similar arrangements to those in the scoring channel for talkback and signalling are incorporated.

Should it be required to record two negatives simultaneously this can be done by bringing in any other channel by means of the circuits in the transmission room.

A special reverberation chamber with variable acoustics enables echo to be applied to any four sound tracks.

Disc records of re-recorded sound can be made either in the theatre or in the transmission room.

A centrally located plant room houses the necessary power supply units for the sound equipment, the Selsyn generators talkback amplifiers and so on. This room also contains a special Selsyn selector unit, enabling any Selsyn generator to be switched to any point. Remote starting can also be selected for special purposes.

Test Room

Associated with the transmission room is the test room. This is equipped with racks of the latest test equipment for carrying out servicing of units or for making checks on remote channels. A soundhead with the necessary amplifiers and filters enable modulated carrier tests to be read easily and accurately. Circuit analysers oscillators, and cathode ray oscillograph combine to make a comprehensive unit.

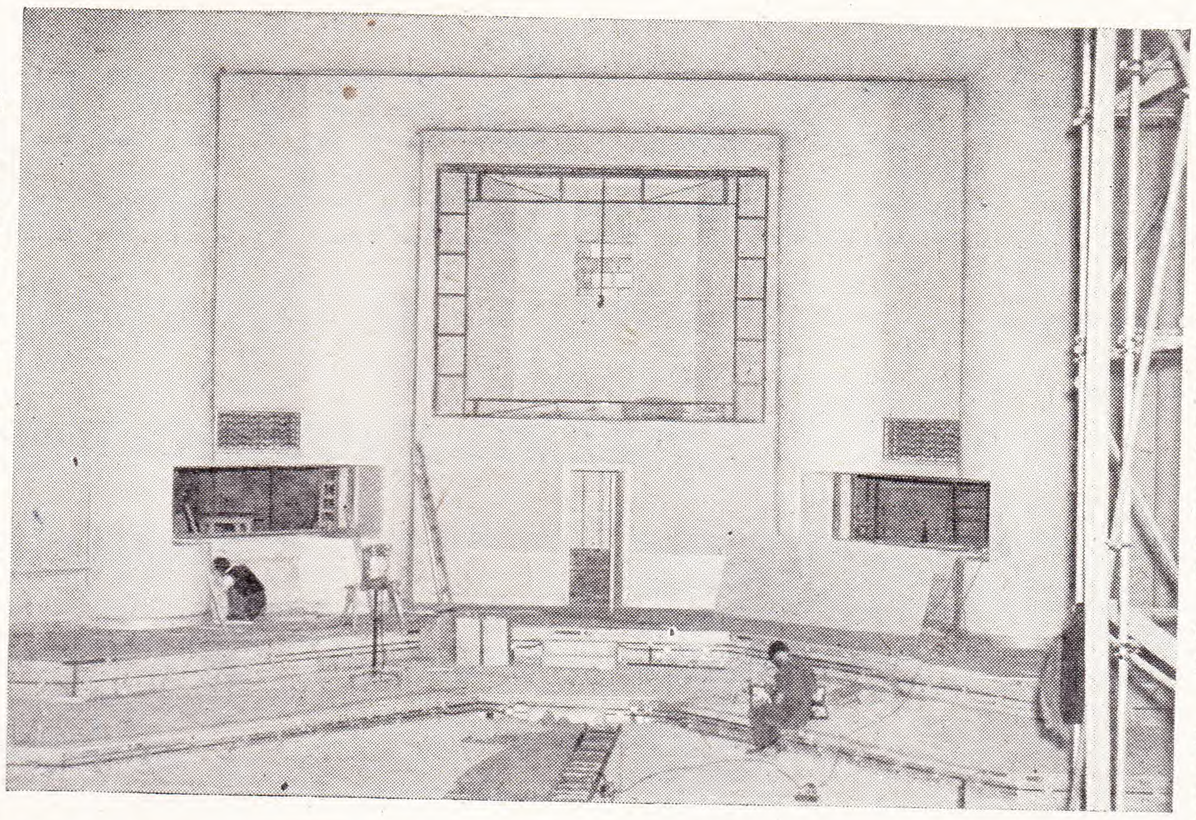
This is but a brief outline of the major points of interest, and RCA has included many other features to bring these studios into line with the most up-to-date Hollywood practice.

Cameras

AMONG THE gear in the camera department is one of the **Newman-Sinclair** Model E Auto Kine cameras and equipment.

This instrument was equipped with the customary standard 50-mm. *f*/2 lens, and has, in addition, 28, 35, 40, 75 mm. *f*/2 and a 6-in. *f*/4.5 lens, all these objectives being panel mounted and readily interchangeable. A filter box was provided to take the normal 2-in.-square filters, and with the camera were five extra film magazines, and the whole outfit contained in two hide leather carrying cases.

The Auto Kine is ideal for specialised studio shots and for all location work where magazines of capacity 200-ft. are acceptable.



A general view of one of the two identical recording theatres in the new recording block. The theatre has been specially designed by RCA acoustic experts

This apparatus is spring driven, completely self-contained, and of weight, loaded with film, approximately 24 lb. The interchangeable magazines can be inserted or removed in a few seconds, as no threading into the gate is needed, the insertion of the raw stock into the magazines taking care of this operation.

The studios will have the use of three Mitchell BNC cameras which arrived at Teddington studios from the US some months ago.

Three Pathfinder camera crane trucks have been sent to ABPC by **W. Vinten.**

The Pathfinder is a modern camera mounting, able to follow any action under almost any conditions; the truck operates with complete silence, so that movements and adjustments can be made quite confidently in all directions during actual takes. Either the operator or the cameraman can move the whole equipment with a touch of the handwheels, and the crane can be rigidly locked when required.

The mechanism is very accurately counter-balanced. Built to carry any type of camera made by other manufacturers, as well as Vinten's, no matter how heavy the camera, the Pathfinder will support it even at most extreme horizontal angles within a few inches of the ground, leaving nothing to be desired as regards stability.

The camera head always remains accurately level at any position, and a two-directional levelling device for quick levelling on uneven floors is provided.

Rotating Mount

The panoramic base mounting has a generous platform rotating absolutely noiselessly with the camera, the assistant's seat being built on to this platform, enabling him to control the focusing during all follow shots. The platform can be rotated either with the hand-wheel, or when degeared, can run free.

The machine runs on solid rubber tyre wheels, sufficiently wide to avoid deflection when the camera weight is changed from one side to the other, but resilient enough to avoid any noise when the Pathfinder is running on the metal rails provided for it.

Projectors

THE INSTALLATION by **Pathe Equipment** includes two of the latest Streemlite Ross projectors and arc lamps, built on the unit construction principle. The modern arc lamp is as optically and mechanically efficient as one would expect from a factory with the reputation of Ross.

Used with the new *f*/1.9 Rosslyte lens, screen illumination leaves nothing to be desired, and the high standard of definition of the coated lens ensures a quality of picture which cannot fail to satisfy the most exacting requirements of any studio installation.

The Ross mechanism is the well-known "G.C." installed in so many ABC and other independent theatres, so that the reliability of this needs no further comment.

The controls for projector and arc lamp are well positioned and the equipment complete with its RCA cloverleaf sound-recording system and sound head is a very impressionable installation.

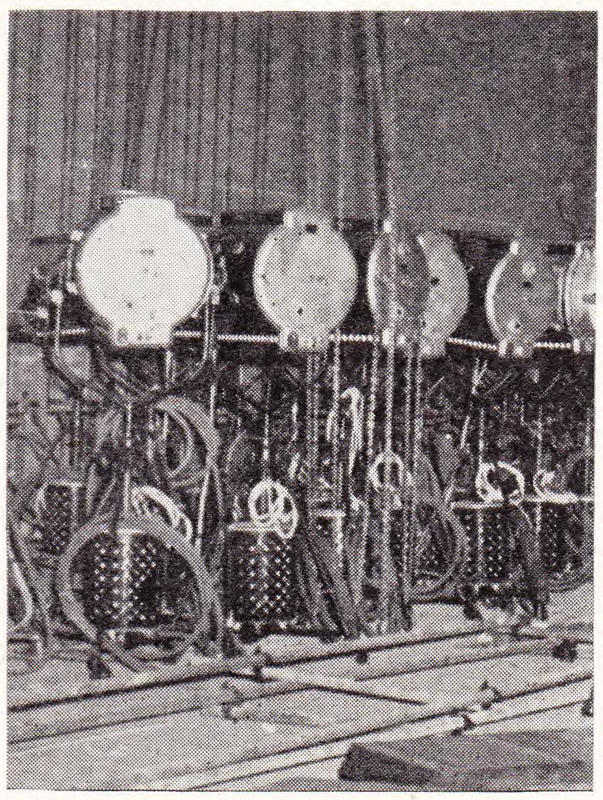
The pleasing workmanlike appearance of the projection equipment is further improved by the addition of six Nevelectors. This equipment is manufactured by Nevelin Electric company, and was designed in conjunction with the carbon and lamp makers to produce a compact and efficient unit for any high intensity arc lamp requiring a current up to 65 ampères, or any low intensity arc lamp requiring a current up to 50 ampères.

A mercury arc rectifier bulb is employed to convert the current from AC to DC.

In this particular installation a remote controlled model is employed where the main rectifier transformer is housed in a cubicle which can be mounted in any convenient space, whilst the controls are all grouped in a small housing arranged for mounting alongside the projector. Only five wires are required to join the two parts.

This type of plant is of great interest to those who consider economy, since there are no standing losses, the whole equipment being disconnected from the AC mains except when actually in operation, but immediately on switching on the rectifier bulb becomes energised and is available for immediate use.

The life of the plant is indefinite.



Mole-Richardson has supplied most of the lighting equipment. Here, part of the order is seen set out on Stage I, now ready for production

Lighting

THE STUDIO is well stocked with lighting equipment, adequate for full Technicolor production without having to borrow additional lamps from other studios.

The order has been placed with **Mole-Richardson.**

There are 106 type 170s 150-amp. high-intensity arcs and 20 type 90s 120-amp. high-intensity arcs. The stock includes 12 type 65 65-amp. high-intensity arcs and 112 type 40 40-amp. Duarcs, suitable for backing and siller light.

So much for high-intensity arcs. The rest of the order includes 120 MR414 5-kw. Senor Solar spots, 200 MR410 2-kw. Junior Solar spots, 48 MR406 500-kw. Baby Solar spots, 48 MR404 100/200-watt magnet spots, 30 MR240 5-kw. sky pans, 24 MR45 1,000-watt riffles, 60 MR20 two-light broads, 60 MR21 single broads, 12 MR305 single-light trips.

All the lights are complete with snoots, barn-doors, and diffusers.

With the lighting gear, Mole-Richardson has supplied 100 MR300 six-hole three-wire fused plug boxes, 2,000 yds. 0.2 sq. in. single loome braded Duocord floor cables, 2,500 yds. of Duocord twin cable, 1,000 yds. Duocord three-core cable, 100 head extension cables for high-intensity arcs, 100 special cable connection boxes and 80 remote-control switch boxes.

All lamps of 2 k. or less are fitted with the new Mole-Richardson half-inch fused stage plug.

Much of the lighting equipment came from **Varilectric**, of London, E.C.1.

The studios are fed from three sets of busbars through contactors,

Continued on page xix

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LIGHTING—*continued*

and across each stage are three catwalks. Mounted by the side of each catwalk for its full length is a busbar run called catwalk busbars.

These bars are of 2,000-amp. capacity and are completely encased in sheet steel with hinged doors on the catwalk side to enable contactors to be tapped off at any point. Special tap-off clamps have been designed to enable connections to be made with the greatest possible speed.

The catwalk busbars are controlled by a switchboard mounted at one end of each studio and connections from switchboards to catwalk bars were carried out in busbars all totally enclosed in steel. So from the switchboard a triple 2,000-amp. D.P. and N. busbar is run the length of the studio and sets of bars leave this main run as each catwalk bar is reached.

Make-up Lights

Special lighting fittings were also supplied by Varilectric for the make-up rooms.

For the stars' make-up room a ceiling fitting was designed 6 ft. long by 4 ft. 6 in. wide and arranged for two 50-ft. 80-watt fluorescent lamps, two 2-ft. 20-watt fluorescent lamps and eight 2-ft. Architectural tungsten lamps.

In the crowd make-up rooms a fitting 10 ft : 6 in. long by 4 ft. 6 in. wide has been supplied containing two sets of lamps enumerated above.

Over 1,700 ft. of high tension fluorescent tubing was supplied by the **General Electric Co.** for the three theatres at the new studios. The re-recording theatre will use 712 ft. of warm white tubing, all concealed behind adjustable acoustic screens. In the scoring theatre, however, the lighting is to be visible and will comprise 618 ft. of similar tubing housed in sheet metal trough reflectors.

The private theatre, which will be lit by 396 ft. of tubing, is to be a smaller edition of the re-recording theatre and the tubing will be concealed in a similar manner.

In each of the three studios the lighting will be dimmer controlled from the operators' room.

The administration block is to be equipped with both HT and mains voltage fluorescent lighting, and for this purpose the GEC is to supply 166 channel-type ceiling fittings and 78 decorative ceiling fittings with clear fluted Perspex channels.

Triple Fittings

Lighting of the restaurant is by means of 14 twin-tube decorative high tension fittings, each with one gold and one warm white tube, and for the canteen there are to be 12 triple-tube standard high tension. The fittings in the canteen are two warm white tubes and one gold colour. In the entrance hall there are four triple tube fittings.

In addition to the fluorescent lighting, the GEC is supplying approximately 1,500 striplites for dressing tables, together with tungsten fittings for all dressing-rooms.

Osram lamps are to be used throughout.

An order went out to **Multiple HD Industries** for lighting gear. The company has supplied skypans made by Hewitt Universal, together with other units and the associated fittings.

Power Gear

FOSTER TRANSFORMER and Switchgear has supplied one main DC distribution board for installation in the main powerhouse to line up with existing DC generator control switchboard, four stage switchboards for installation on the stage "catwalks," and one main cubicle type AC switchboard for control of BEA and auxiliary alternator supplies.

The main board is of the flat back type, having black enamelled, polished slate panels with open type airbreak switchgear, comprising circuit breakers, knife switches, indicating and integrating meters.

This board has four panels each for the control of a 6,000-amp., 240/120-volt, 3-wire DC feeder to all four stages, together with a mid-wire earthing panel incorporating a 100-amp. airbreak earthing circuit breaker and recording instrument. The main busbars are mounted at the rear and connect direct to the generator panel existing busbars.

The four stage switchboards are for the control of the main DC distribution on each stage. These are designed for mounting on the studio "catwalks," and each consists of a three-panel, flat back type switchboard having black enamelled polished slate panels, the construction being similar to the main DC board mentioned above. The switchboards are provided with open type busbars suitable for connection direct to the incoming 6,000-amp. feeders from the main DC switchboard.

Stage one switchboard is equipped with a special busbar arrangement at the rear to facilitate easy connection to the main incoming feeder cables, as difficulties were encountered due to the switchboard being mounted directly underneath the slope of the studio roof and adjacent to a staircase.

The main AC switchboard is installed in the main power house and is of the sheet-steel deadfront cubicle type, comprising six panels.

Number 1 panel controls a 500-kVA. BEA incoming supply at 415/240 volts, 3-phase, 4-wire, 50 cycles. This panel is equipped with a draw-out type, oil-immersed circuit breaker, and current, pressure, frequency and power factor indicating instruments. Panels numbers 2 and 3 each comprise two outgoing 200-amp. feeder circuits consisting of oil-immersed. draw-out circuit breakers, mounted in double-tier formation.

Panels 4 and 5 are similar to panels numbers 2 and 3, but are rated for 150-amp. feeder circuits.

Panel number 6 has four 100-amp. and two 60-amp. 4-wire feeder circuits, each feeder being controlled by one "Foster HI" type heavy industrial fuse switch.

Emergency Plant

The main 4-wire busbars running throughout the entire switchboard are split at a point between feeder panels numbers 3 and 4 and connected to a remote change-over switch so that, under normal conditions, the BEA supply would feed the whole of the switchboard, but in the event of the load demand exceeding the capacity of the BEA feeder, an auxiliary diesel alternator set can be connected in circuit via the change-over switch and feed panels numbers 4, 5 and 6, leaving 2 and 3 only on the BEA supply.

A diesel-alternator power unit for auxiliary electrical generation or standby duties, the prime mover being a Paxman Mark 12 RPH V-type 12-cylinder diesel engine has been put in by **Davey, Paxman and Co.** The normal continuous working load of this engine for 12-hour periods is 400 b.h.p. at a speed of 1,000 r.p.m., at which rating the output is 270 kW. In common with high-speed diesel engines the space occupied by this unit, complete with alternator, is remarkably small in comparison with the power developed.

The approximate dimensions are, length 15 ft., width 5ft., height 7 ft.

The diesel engine is connected to a **BT-H** 3-phase, 50-cycles, 440-volts, 4-wire alternator provided with overhung exciter, back-of-board exciter shunt field regulator, and half-coupling for direct connecting to the engine. An automatic voltage regulator is also provided and a Klad Form "A" switch pillar.

The drive from engine to alternator is through a flexible coupling of the Wellman Bibby type and starting is by 24-volt starter motor operated by press-button in the same way as for a motor-car.

The company will instal three sets similar to this at the M-G-M British studios at Boreham Wood. Additionally, it has a contract for diesel engine plant of a rather different type for installation at the British Lion studios, Shepperton.

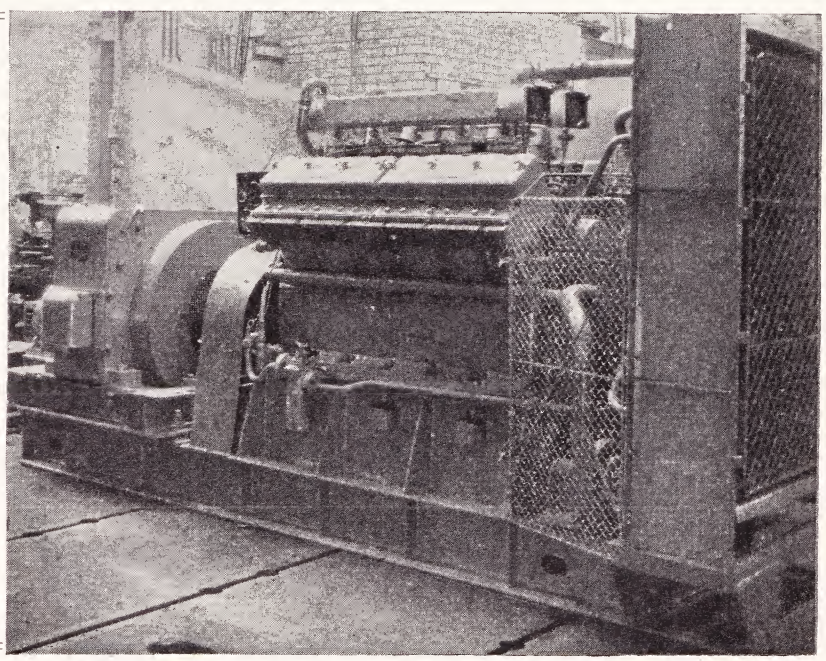
The engine lubricating oil is maintained permanently in good condition by means of Stream-Line filters.

In the case of a long-standing installation, such an article would sometimes go on to give records showing the very satisfactorily small amount of engine wear which takes place when the lubricating oil arrangements are properly looked after.

The Petroleum Board, which is to be disbanded on June 30, supplied two 3,500-gallon tanks for the storage of gas oil for generating plant.

Ruston and Hornsby and Davey, Paxman Co., approved the use of **Silvertown Lubricants'** engine

Continued on page xxi



Davey Paxman has put this MK 12 RPH V-type 12 cylinder diesel engine into the studio power house. It gives an average rating of 270 kW. Three similar sets are on their way to the M-G-M British studios

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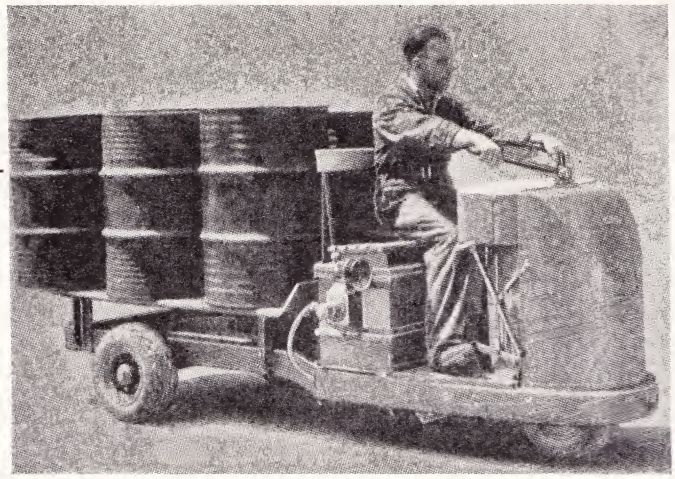

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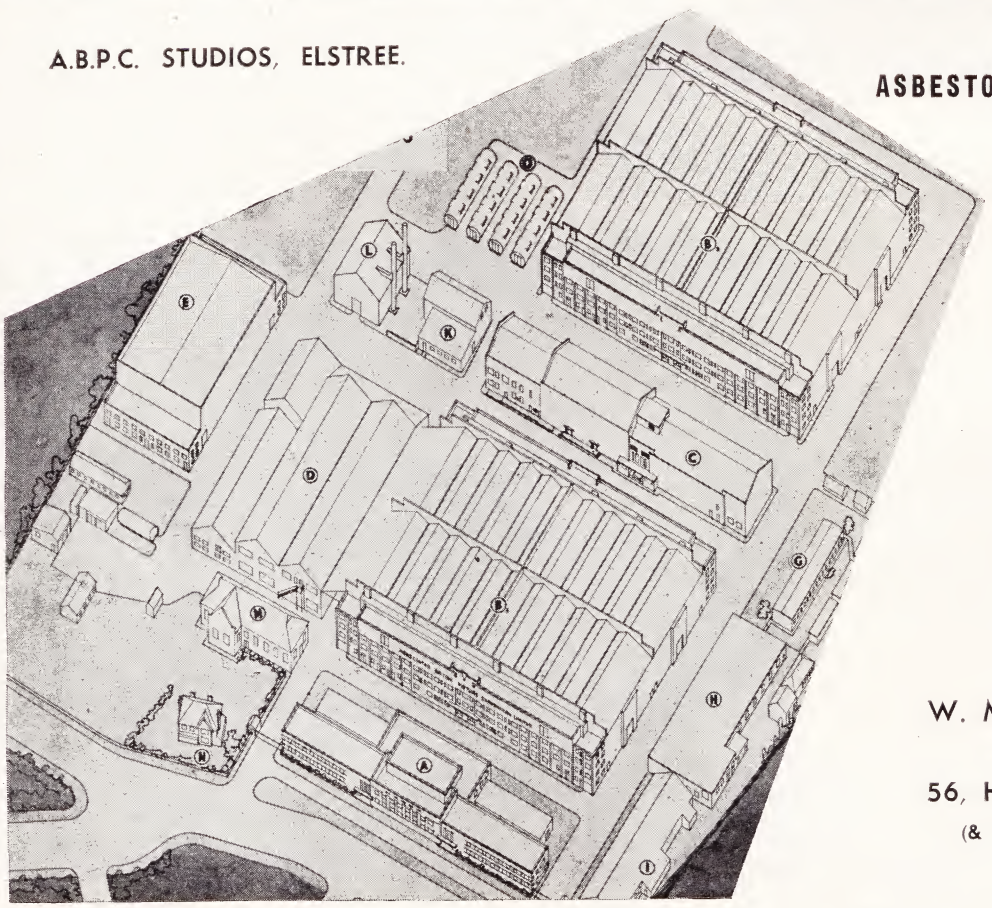

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POWER—*continued*

oil D3 on the oil engines which ABPC installed. To accommodate the oil engine lubricant the company is delivering a battery of storage tanks into which the oil can be pumped from road tank wagons.

Engine oil D3 is one of the standard high-quality lubricants which are manufactured from carefully selected materials. It is being extensively employed in both marine and land installations in many parts of the world.

Wiring

THE SUPPLY from the existing power house is by a number of 1 sq. in. paper-insulated cables, which feed each stage switchboard, mounted at catwalk level, and have a capacity of 12,500 ampères at 220/110 volts DC 3 wires per stage. From this switchboard copper busbars feed three busbar runs across the stage which, in turn, feed the 40/150-ampère contactors controlling the stage lighting.

That's just part of the work done by **Barlow and Young**, Westminster.

A 0.2—4-core cable supplies the alternating current requirements, which consist of general stage lighting, 24—500-watt lamps with RLM reflectors, silence lights, fire alarms and klaxons, door locks, heating, lighting to artists' dressing-rooms, and power to air-conditioning plant in plenum chamber.

All stage requirements are controlled by contactors which in turn are wired to multi-pin plugs at three positions on each stage, so that a console can be plugged into any of these plugs and take over the complete control of all apparatus, DC and AC, including door locks, telephones and air-conditioning plant; in the event of a breakdown or fault the control can be resumed at a master multi-switch panel adjacent to each catwalk switchboard.

Sound recording is wired to a special bay situated on the ground floor of each building. Here a sound truck can be backed into position, and by means of multi-pin plugs, connected to stage operating camera through the console control.

The sound building which contains the most modern electrical and acoustic properties is fed by a 0.2—4-core cable. The theatre lighting consists of high tension neon controlled by dimmers, and the re-recording theatre has a stage with all the usual stage lighting, again controlled by dimmers.

Frequency stabilisers are also incorporated.

The lighting of the restaurant and theatre will consist of cold cathode neon, and the offices are equipped with modern fluorescent fittings.

Laboratories are being completely reorganised to contain the latest printing and developing machines. A new fire alarm system is also being installed.

All fire alarm systems and outside lighting are now controlled by a master board situated at No. 1 gate house.

An internal telephone system links all departments.

Over 70,000 ft. of all sizes of electrical conduit have been installed along with many miles of vulcanised cable (control circuits alone using 50,000 yds.).

Over 8,000 yds. of 1 sq. in. 4-core, paper-insulated cables have, and 25,000 ft. of 4 in. by ¼ in. copper busbar will have, been installed.

The whole of this installation has been carried out by Barlow and Young.

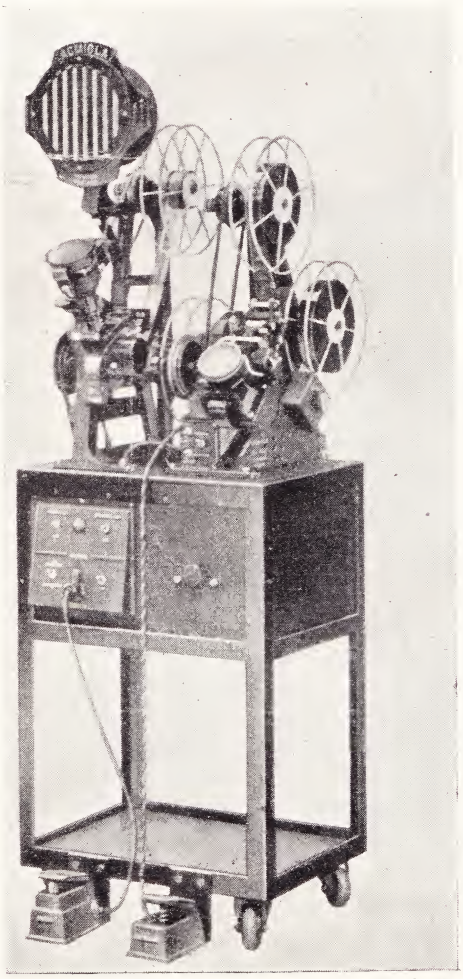
Cutting

CUTTING-room equipment has come from another all-British source — **Acmade**, of Uxbridge. There are several of the Acmiolas fitted with reversible take-ups for both sound and picture and designed for over-spindle threading of the sound track.

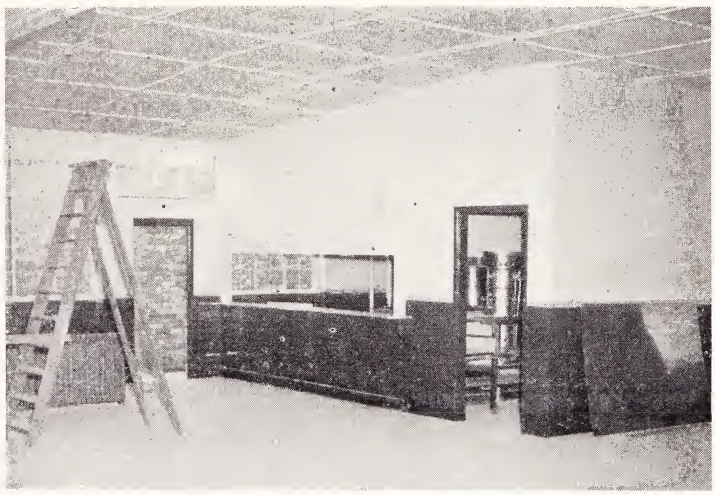
The latest Acmiola feature enables the operator to remove the sound-spools when in the middle of a run, a feature which has applied to the picture-spool for some time.

There are a number of picture-heads and synchronising tables which have come from Acmade.

Harold P. Bastie, director of **Ernest F. Moy**, reports that the company contributed some of the equipment for the laboratory. The studio has taken the company's standard 35-mm. film-numbering machine.



The Acmade model B Acmiola which is part of the cutting-room equipment and is typical of the British-made instruments which are taking the place of foreign designs



A corner of the general staff canteen. A new canteen for administrative personnel and artists will be included in the block of buildings now being put up in front of the main stage. The kitchen area is 1,900 sq. ft. and the canteen is connected to the studio ventilation system

SERVICES

Canteen

COMPLETE charge of the building and the equipping of the canteen; that was the job given to **Benham and Sons**, of Wigmore Street, associated in the past with equipping the canteens at Pinewood and Shepherd's Bush studios.

Three separate dining-rooms are planned, with the executive restaurant seating 40, the staff 180, and the workers' canteen 220 persons.

Kitchen area is 1,900 sq. ft., which, according to Donald Reynolds, B.Sc. (Eng.), Benhams' chief engineer, is a little on the small side. But in conjunction with the architect, W. R. Glen, they have designed a satisfactory layout of the kitchen and service equipment.

Ventilation for the canteen is connected to the main studio system.

Included among the fixtures by Benhams will be two 50 cu. ft. cold storage rooms, gas roasting oven, gas-heated dish washing machine, electric grill, pastry oven, potato peeler, mixing machine, meat slicer, various types of ovens, and all hot and cold service counters.

The system for automatic toilet disinfection, operated by **Calmic**, of Crewe Hall, Crewe, has been installed at the studios. Calmic's service is provided on a yearly contract basis and is used by a number of major studios and kinemas.

Heat Rays

STUDIO FOLK have to know a great deal about light; they also, unfortunately, have to know a great deal about accidents . . . fractures, bruises and minor injuries being part of the routine. Film men will argue that bad lighting causes accidents and good lighting prevents them. Right enough, but they might be surprised to hear that one kind of light will also help to cure accidents.

One useful item in the new Elstree studio equipment is a

Continued on page xxiii

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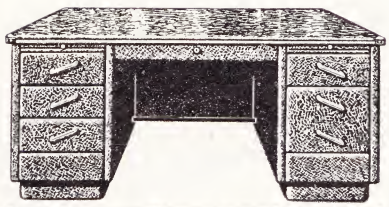

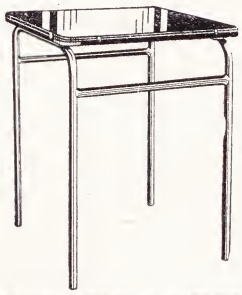

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HEAT RAYS—*continued*

radiant-heat lamp of the largest size. Known as the Sollux Lamp (Model IX) and made by **Hanovia, Ltd.**, it is exactly the same as is widely used in hospitals every day. The "business" element of the lamp is a 1,000-watt bulb mounted at the focus of a paraboloid reflector, which can be fitted with a metal funnel-shaped localiser, so that all the radiation of the bulb can be brought to focus into a circle of, say, 2/8 in. diameter. And this focused beam can be aligned downwards, outwards, sideways, or as required.

The action of this radiant heat in injuries acts like this: When a shin is "barked" or an ankle wrenched, all the muscles around at once go into spasm, all the blood vessels are constricted; pain and stagnation are the immediate result. Under the action of the radiant heat, applied just to the injured spot, the spasm relaxes and the local circulation is restored in enhanced volume, with the result that after about 20 minutes' treatment the pain has gone, or is at least considerably eased, healthy circulation is restored and many unpleasant consequences averted.

Make-up

MOST OF the equipment and a large quantity of supplies for the studio's extensive make-up departments are being supplied by **Nagele's**, of Broadwick Street, W.1.

The firm specialises in preparing and matching all shades of human hair, particularly for the Technicolor cameras. It has built up this service for many British studios; now it serves ABPC.

The make-up rooms will be stocked with Nagele's complexion brushes, red sable artist brushes, velour puffs and Turkish sponges.

Scissors, combs, waving irons, hair brushes, shampoos, setting lotions, and so on, will all go out to the studio from Nagele's, together with haircutting gowns, towels, face tissues, and pins for the wardrobe department.

The company has provided heavy make-up-room equipment, including a number of "Calthorpe" hydraulic hairdressing chairs, a new type of hair-dryer designed by the company, and several revolving and reclining make-up-room chairs.

Workshops

THE STUDIO shops have been re-equipped throughout. One of the largest contracts was placed with **Buck and Hickman**, Whitechapel Road, E.1.

Among the major pieces of equipment for the carpenters' shop is a Victoria precision milling machine. This has been made by the Victoria Machine Tool Co., of London.

The firm has supplied a Wicksteed metal sawing machine. The new hydraulic resistance sawing machine design is said to increase output by 100 per cent. and the life of the blade by 150 per cent.

There are several types of lathes installed at the studios. They have been made in Britain—so has all the other equipment.

There is a Willson, Halifax, 7½-in. centre lathe, a T. S. Harrison 4½-in. centre lathe, and a 3½-in. Cromwell, turned out by British Smallpieces, Ltd.

Buck and Hickman has also supplied a Clarkson cutter-grinder, and Harrison grinding and polishing machines. There is a Pallas (B. Elliott and Co., N.W.10) precision surface-grinding machine and a Victoria Model O semi-universal grinding machine capable of handling up to 6 in. dia. by 10 in.

Other equipment includes Progress drilling machines, a Richmond (Midley and Sutcliffe, Leeds) SR2 radial drilling machine, and a Denbigh Column worm and lever 20-in. and 24-in. high-speed drilling machine.

Inter-com.

THE STUDIO has an internal telephone communication for 50 lines, but an extension is in hand for a further 50 lines. This will complete the first cabinet of equipment. Further extensions can be added, as required, up to the ultimate capacity of 290 lines. That's part of **Siemens'** work.

The power plant operating the telephone system comprises a Siemens automatic charging transrecter working from the AC supply mains, together with a single-lead acid battery. With this combination the DC supply to the telephone system is assured in the event of a supply mains failure.

The telephone instruments are moulded Bakelite and are fitted with high-efficiency handsets as used in the public telephone service. Where telephone bells would cause interference with sound recording visual signalling can be substituted for the bells.

A staff call system to operate in conjunction with the automatic telephone equipment is now under consideration, whereby an executive's code is displayed upon signals situated in various parts of the studios. Such a call can be answered by the required person from any telephone and he is immediately in touch with the person who sent out the staff call.

Electricity

ELECTRICITY to the studios at Elstree is supplied by the **Eastern Electricity Board**. This supply is taken from the 22 kV. network at Boreham Wood by means of a ring main distribution system, current being transformed to the required voltage at a substation on the site of the studios. Discriminating type of protection is fitted on the 22-kV. feeders which ensures a continuity of supply under normal conditions in the event of a feeder fault. An alarm is given at a continuously manned substation if a feeder or transformer becomes faulty.

The incoming feeders to the Board's substation terminate in a six-panel Reyrolle Class "A" 22-kV. switchboard, four panels of which are allocated for the control of the supply to four BET

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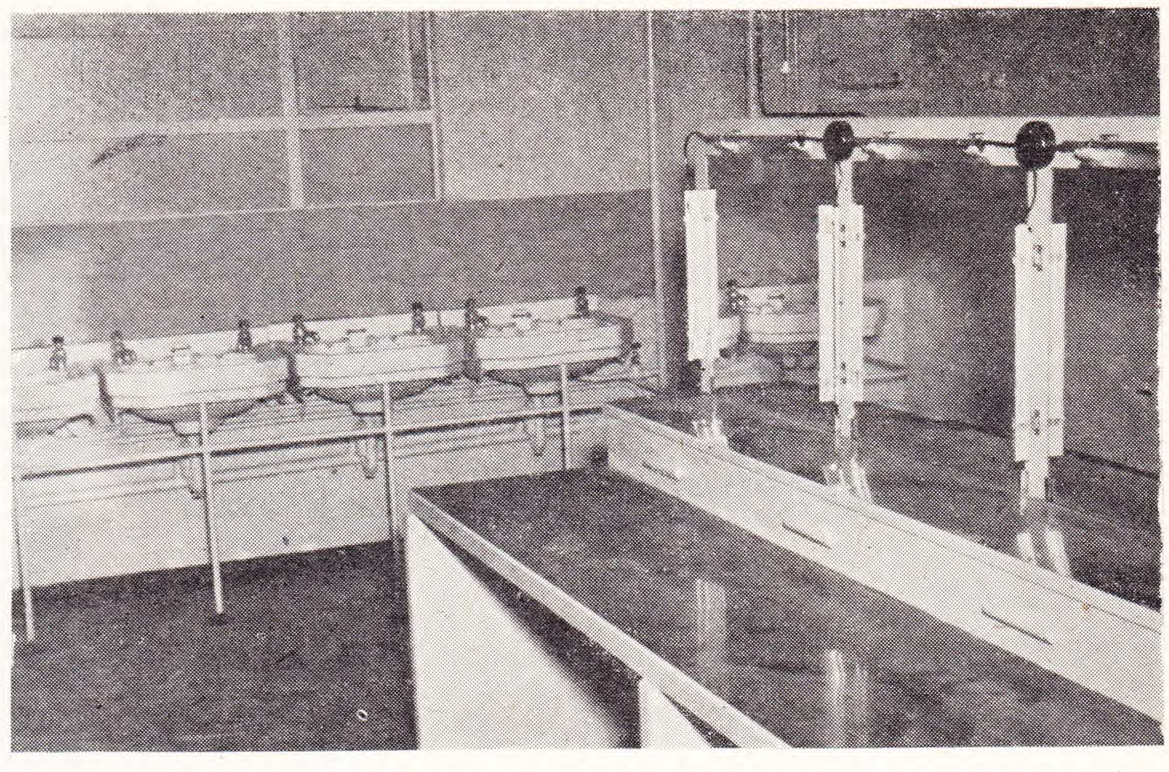
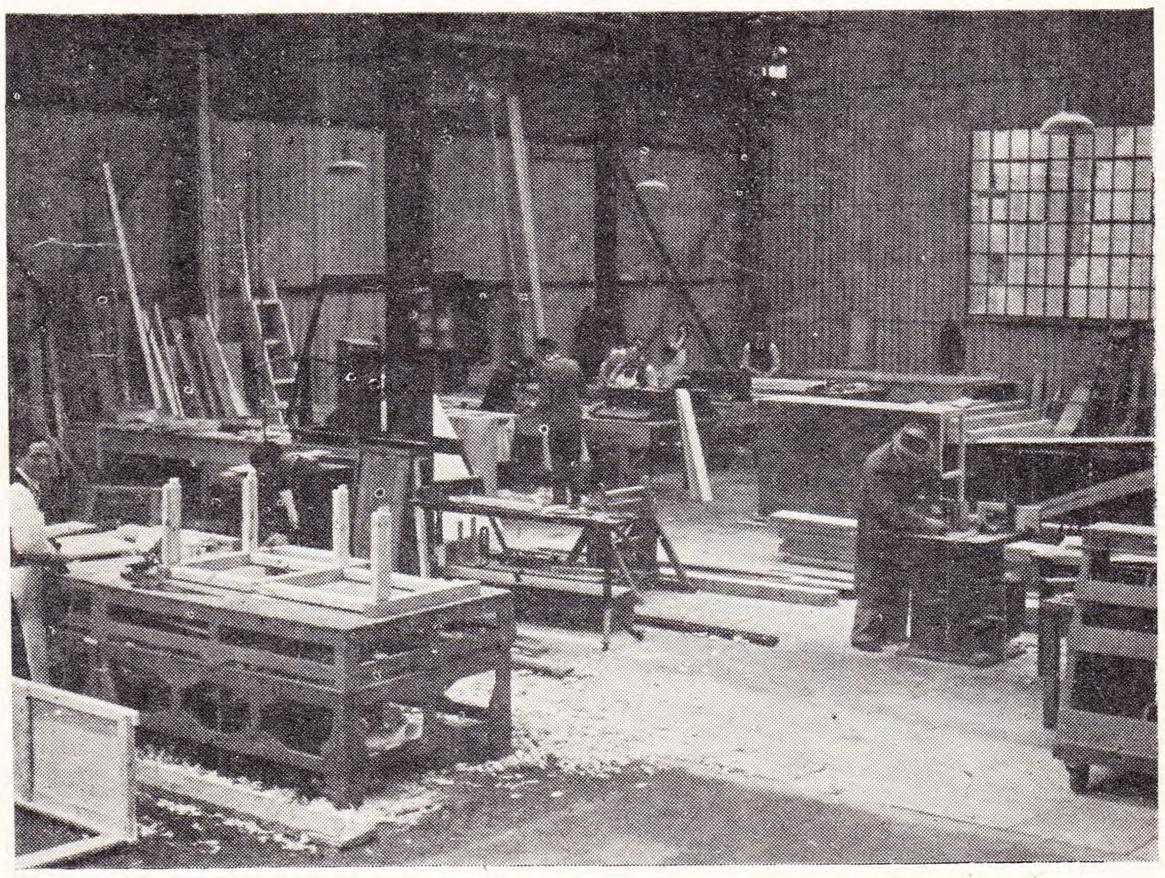
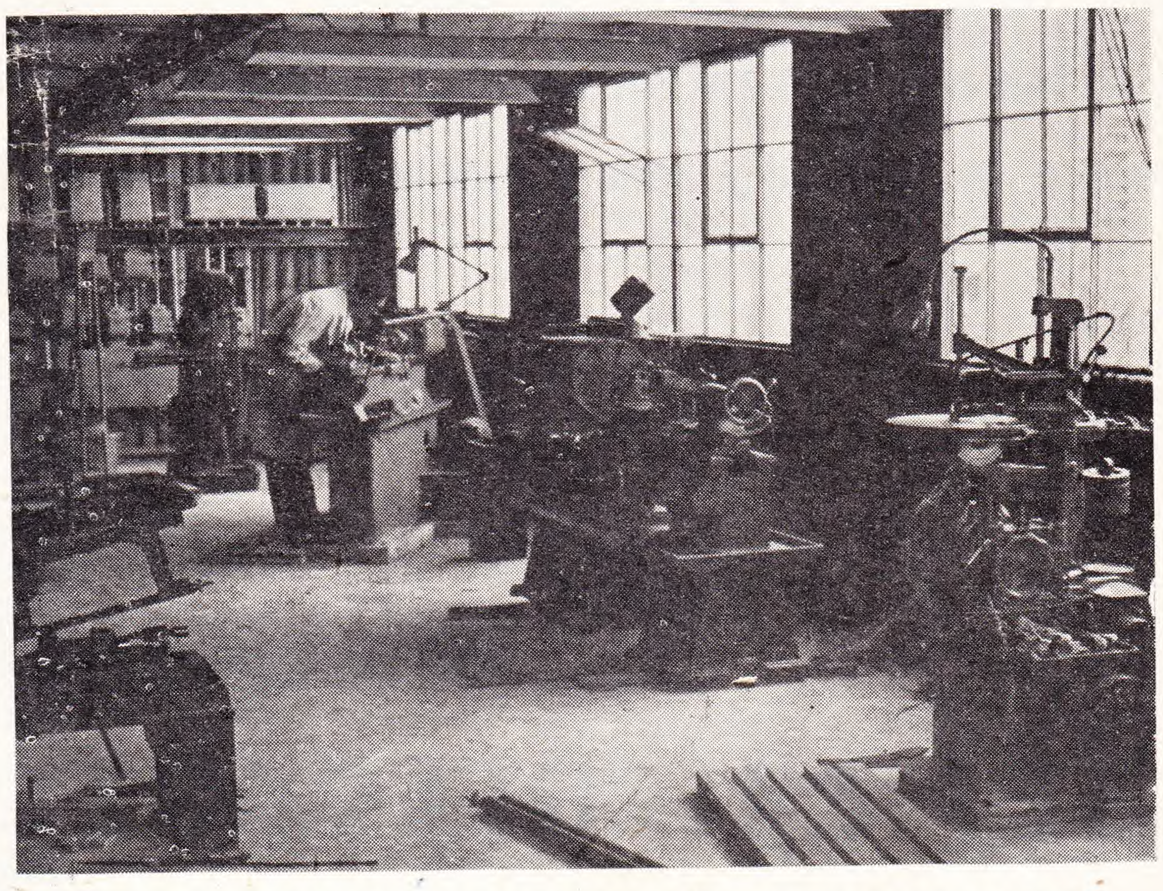


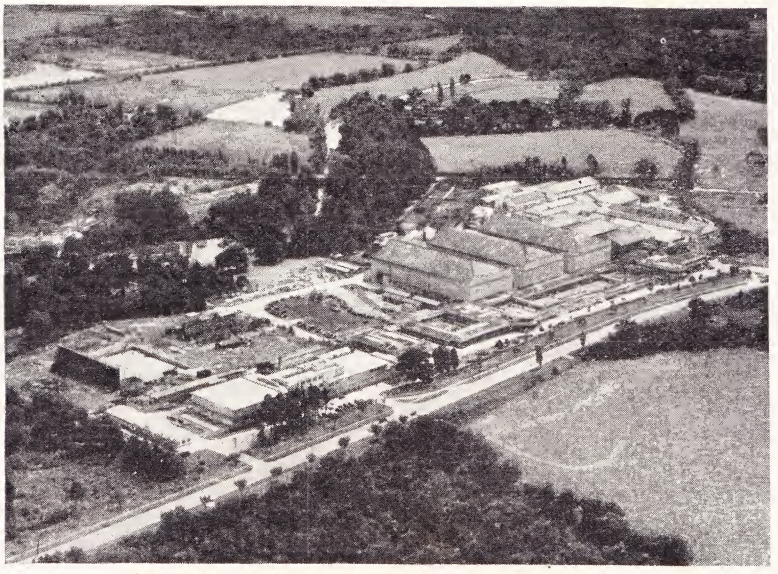
This type of make-up room has been provided on each side of the stages for crowd and feature artists. The star artists will each have a private dressing- and make-up room in the same block



The carpenters' assembly shop is well equipped with new machinery. The staff is now busy sorting out available supplies of timber and making various items for use around the studios—such as step ladders



The machine shop, where several pieces of light engineering equipment (all British made) have been put in by Buck and Hickman. This department will make running repairs to all studio equipment



recent and current productions at **DENHAM** *include:*

Vice Versa (Two Cities)
Escape (20th Century Fox)
So Evil My Love (Paramount)
Hamlet (Two Cities)
Mr. Perrin and Mr. Traill (Two Cities)
Sleeping Car to Trieste (Two Cities)
The History of Mr. Polly (Two Cities)
Look Before you Love (Burnham Productions)
Cardboard Cavalier (Two Cities)

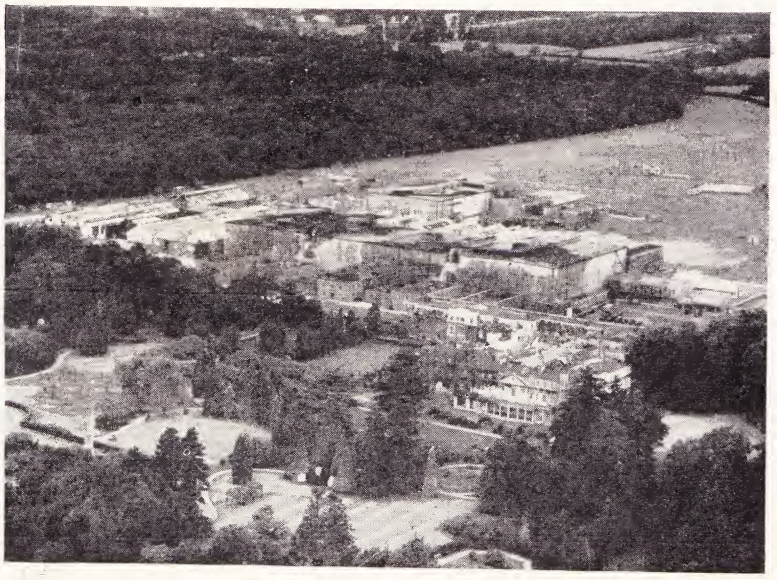
ADMIRABLY SITED
SUPERBLY EQUIPPED
CENTRALISED DEPARTMENTS

JD AND JP STUDIOS LTD

183,000 sq. ft. of stage and floor space and nearly 250 acres of exterior lot, with full employment for more than 2,000 people in virtually every known trade

recent and current productions at **PINEWOOD** *include:*

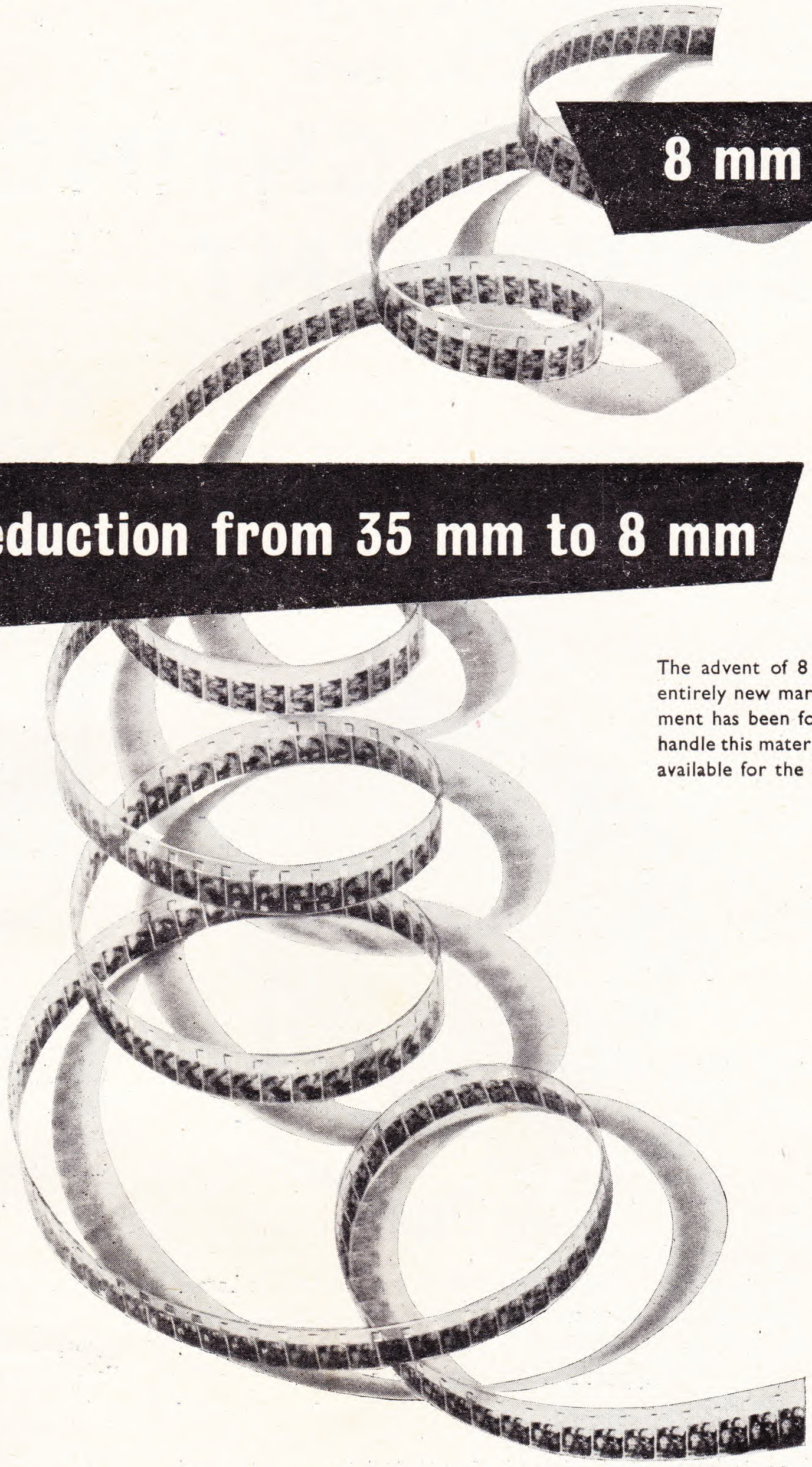
Captain Boycott (Individual Pictures)
Blanche Fury (Cineguild)
London Belongs to Me (Individual Pictures)
The Red Shoes (Archers)
Esther Waters (Wessex)
Oliver Twist (Cineguild)
The Blue Lagoon (Individual)
The Passionate Friends (Cineguild)
Once a Jolly Swagman (Wessex)
Once upon a Dream (Gainsborough)
It's Hard To Be Good (Two Cities)
Warning To Wantons (Acquilla)



A new service

8 mm printing

reduction from 35 mm to 8 mm



The advent of 8 mm film opens up an entirely new market. A special Department has been formed at "Denlab" to handle this material and facilities are now available for the supply of any quantity.

DENHAM LABORATORIES LTD

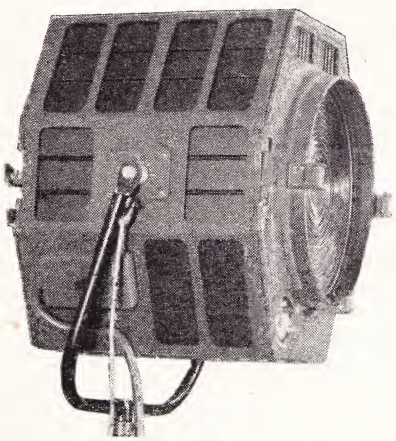
TELEPHONE: DENHAM 2323 TELEGRAMS: DENLAB DENHAM

G.E.C.

STUDIO LIGHTING EQUIPMENT

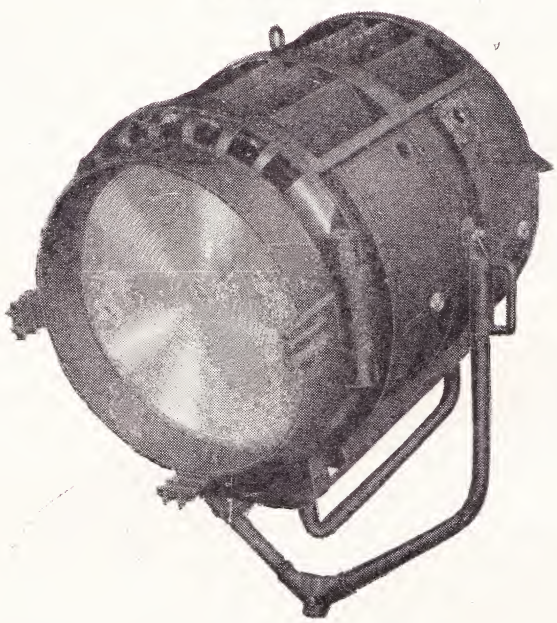
MADE IN ENGLAND

INCANDESCENT



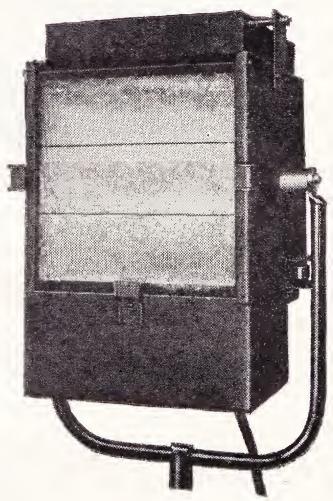
G.E.C. 5 kW Studio Spotlight. An example of the latest type of light alloy incandescent spotlight.

ARC



G.E.C. Double Negative 150 Amp. H.I. Silent Arc Lamp. Pairs of these new arc lamps may be operated in series, thus saving approximately half the energy consumption compared with ordinary arc lamps.

"COMPACT" SOURCE



G.E.C. 35 amp. "Compact" Flood using the new 2½kW OSRAM Compact Source Lamp. This is one of the range of G.E.C. "Compact" units suitable for use with Technicolor.

Full particulars obtainable from the Exterior Lighting Department of

THE GENERAL ELECTRIC CO. LTD.

Magnet House, Kingsway, London, W.C.2

ELECTRICITY—*continued*

from page xxiii

indoor type oil-cooled 500-kVA., 22,000/415-volt transformers, the low voltage side of the transformers being controlled by a four-panel **BT-H** class "AJ" air-insulated 25-mVA. rupturing capacity switchboard, the busbars of which are coupled to overhead copper ring main busbars, incorporating air-break isolators at each end and terminating in the Corporation's switchboard.

Extensions which are now being carried out provide for an additional 22-kV. switch panel for control of a 500-kVA., 22,000/3,300-volt, 3-phase transformer, associated with a **Crompton Parkinson** 500-kW. motor-generator set.

New premises to be constructed later will be equipped with ten 500-kW. 3,300-volt motor converters, supply being taken from the board's existing substation.

General Gear

LADDERS, STEPS and tower ladders, as well as "Rap-Rig" patent sectional scaffolding, has been provided by **Drew, Clark and Co.**, London, E.10. It's not the company's first film contract . . . "Rap-Rig" is used by the Rank Organisation and the various ladder designs are used by major independent and circuit kinemas.

The studio technical layout looks like a repeat performance of the British Industries Fair. There are plenty of ingenious ideas. For example, **Drakard and Humble**, of London, have supplied a series of Espando storage cabinets.

These are ideal for machine rooms and the property departments, being made in such a way that interchangeable parts can be adapted to build up an almost limitless variety of compartments . . . deep, shallow, narrow, long, tall, and so on.

Transport

COMMERCIAL motor vehicles are necessary for any studio. **G. and R. Garage**, Surbiton, got that contract and also provided a number of electric industrial vehicles. The firm did a number of those rush jobs which turn up every time major building and equipping work takes place. It tackled orders for the production of machine castings at short notice for studio lamps.

Additional transport has been provided by **Lewis, Napley and Co.**, of London, N.W.3, who specialise in shooting-brakes for carrying cast, equipment to location sites. They make ideal camera cars. There is a Ford Mercury 32-h.p. brake which seats up to nine people. It is 17 ft. by 5 ft. wide and does 16 miles to the gallon. Cost is over the £1,000 mark.

The company, incidentally, has started a service for all British studios. It sets out to provide at short notice all types of period or Continental cars which may be needed on set. A new catalogue, "Unusual Vehicles," will be going out to studios shortly.

G. Edward Kidd, in charge of the design and experimental department of **London and Midland Steel Co.**, is no stranger to the production side of the industry. He was on the Shepherd's Bush studio staff before the war, during the "Rome Express" days.

At that time he did much to introduce steel tubular construction into nearly every branch of floor work.

The London and Midland company has supplied many thousands of feet of steel tubing to the ABPC studios for set construction purposes. It is the Burton's patent type and is ideal for putting up all types of steel-wood rostrums, and so on.

SFA MEETING

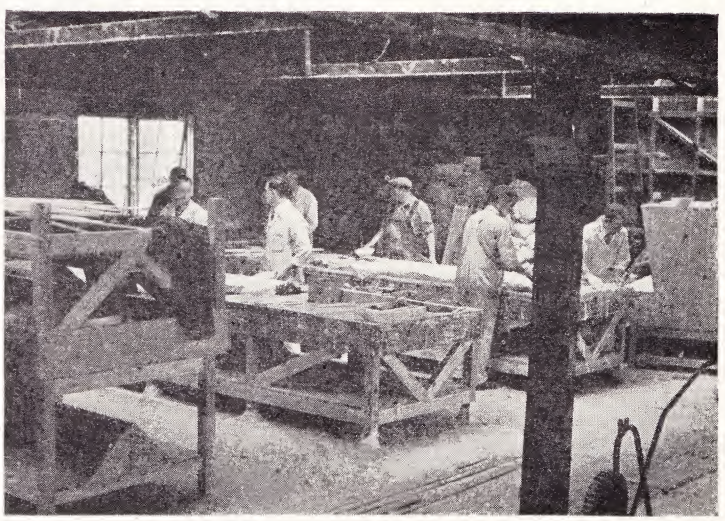
The second congress of the International Scientific Film Association will be held in London from October 4-11. It is being convened by the Scientific Film Association of Great Britain with the help of the British Film Institute. Invitations have already been issued to countries throughout the world.

There will be a festival of scientific films, when it is hoped to show many contributions from all the participating countries to members of the general public.

Further details may be obtained from the Scientific Film Association, of 34, Soho Square, London, W.1.

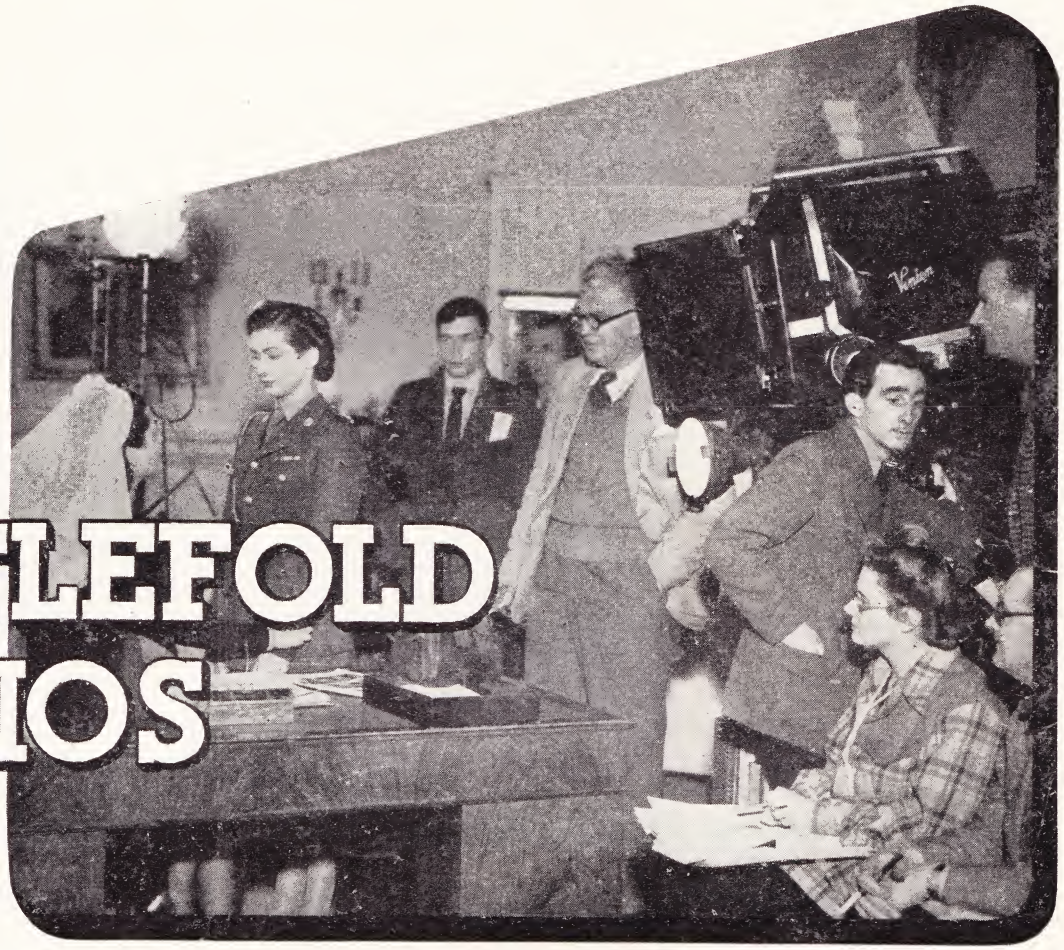
THE SECOND PAIR OF STAGES

The last bricks go up—and in a very few weeks the second pair of stages will have been completed. These two stages (on the right) will be similar in every detail to the first two, which are now ready for production. The new recording block can be seen on the left of the scaffolding. RCA engineers have started to put in the latest equipment, described fully on page xv



Plasterers' shop, where a skeleton staff is busy putting plaster decorations to the shop walls, and completing a number of finishing-off jobs around the studios

NETTLEFOLD STUDIOS Ltd.



MacLean Rogers directs Dinah Sheridan and Margaretta Scott in a scene for the Nettlefold production "The Story of Shirley Yorke" soon to be trade shown by Butcher's.

☆

3 SOUND STAGES

(Third Stage nearing completion)

BACK PROJECTION
CUTTING ROOMS
VAULTS
MODERN EQUIPMENT

Managing Director: ERNEST G. ROY

Studio Manager: W. H. NORRIS

Recently "CALLING PAUL TEMPLE" (Nettlefold Films Ltd.); "THE STORY OF SHIRLEY YORKE" (Nettlefold Films Ltd.); "THE GLASS MOUNTAIN" (Victoria Films Ltd.)

HURST GROVE, WALTON-ON-THAMES, SURREY

Telephone: **Walton-on-Thames 2414**

SUB-CONTRACTORS AND THE WORK THEY DID

A catalogue of names alphabetically listed according to the classes of the equipment they supplied and fitted

BUILDING CONTRACTORS

BAKERS JOINERY, LTD., 51-3, Middlesex Wharf, Lea Bridge, E.5, Doors, plywood shapes to walls and ceilings of scoring stage, insulite boardings, observation panels.

BARLOW AND YOUNG, LTD., 19-21, Palace Street, Westminster, S.W.1, Electrical installation.

BRITISH INSULATED CALLENDERS CABLES, LTD., Surrey House, Temple Street, W.C.2, Cable.

CONCRETE, LTD., Green Lane, Hounslow, Middlesex, "Bison" flooring.

CROMPTON PARKINSON, LTD., Chelmsford, Essex, Generator sets.

H. W. CULLUM, LTD., Connaught Gardens, London, N.10, Rock wool slabs acoustic treatment.

ROBERT DAVIDSON, 32, Canmore Gardens, Streatham, S.W.16, General trade works.

DYNAMO AND MOTOR REPAIRS, LTD., Wembley Park Works, North End Road, Wembley, Middx., Loan of motor conveyor and motor.

FOSTER TRANSFORMER AND SWITCHGEAR, LTD., South Wimbledon, London, S.W.19, Switchboard installations.

J. W. GRAY AND SON, LTD., 37, Red Lion Street, London, W.C.1, Lightning projection.

HENRY HOPE AND SON, LTD., 17, Berners Street, W.1, Windows.

J. JEFFREYS AND CO., LTD., 195-203, Waterloo Road, S.E.1, Heating and ventillation.

T. C. JONES AND CO., LTD., 93-5, Wood Lane, Shepherd's Bush, W.12, Steel.

KORKOID DECORATIVE FLOORS, 50, Pall Mall, S.W.1, Korkoid walling.

ALFRED LOCKHART, LTD., Ferry Lane, Brentford, Middx., Fencing.

LONDON BRICK CO., LTD., Africa House, Kingsway, W.C.2, Hollow building blocks.

LIMMER AND TRINIDAD LAKE ASPHALT CO., LTD., Steel House, Tothill Street, S.W.1, Asphalt.

METAL WORK SERVICES, LTD., 44, St. Paul's Crescent, Camden Town, N.W.1, Handrailing and inlet grilles.

MILLERS (PLASTERERS), LTD., 15, Stainforth Road, Walthamstow, E.17, Plasterwork.

W. AND E. MOORE, LTD., 15, Poplar High Street, E.14, Safety stops, acoustic screens.

NORTHMET POWER CO., Northmet House, Southgate, N.14, Electrical current.

PATHE EQUIPMENT, LTD., 111, Wardour Street, London, W.1, Door springs.

ROFFE DECORATIONS, LTD., 213, Hornsey Road, N.7, Metal bracketing and plaster to ceilings and vices.

STEDALL AND CO., LTD., Broad Street House, 164, High Holborn, London, W.C.1, Door ironmongery.

STEELE'S LIMITED, 101, Stoke Newington High Street, London, N.16, Glazier work.

TURNERS, BUILDERS, LTD., 42, Upper Richmond Road, London, S.W.14, Building blocks.

W. M. WALKER AND CO., LTD., 56, High Street, N.W.10, Asbestos.

T. W. WARD, Albion Works, Sheffield, Generating equipment.

WARNER BROS., Teddington, Cables for temporary devices.

EQUIPMENT

ACMADE, LTD., Colnside Works, Oxford Road, Denham, Middx., Acmiola machines and sync. tables.

AEROGRAPH, LTD., Lower Sydenham, S.E.26, Air compressing plants.

AVERY HARDOLL, LTD., Oakcroft Road, Tolworth, Surbiton, Surrey, Meter and registering unit.

BAKERS JOINERY, LTD., 51 and 53, Middlesex Wharf, Lea Bridge, E.5, Make-up tables, dressing tables, cupboards, wardrobes.

BENHAM AND SON, LTD., 66, Wigmore Street, W.1, Canteen equipment.

C. E. BEVINGTON, LTD., Buchanan Buildings, 24, Holborn, E.C.1, Crockery.

F. BRABY AND SON, LTD., Ida Works, Deptford, S.E.8, Galvanised steel cistern.

J. FRANK BROCKLISS, 167-9, Wardour Street, W.1, Film splicers.

BUCK AND HICKMAN, LTD., Otterspool Way, Watford Bypass, Watford, Herts, Machines.

FRANK BURKITT, LTD., 10, Lant Street, Borough, S.W.1, Fixing fire shutters.

CALMIC, LTD., Westhoughton, Lancs, First-aid equipment.

DAVEY PAXMAN AND CO., LTD., Standard Ironworks, Colchester, Paxman diesel engine.

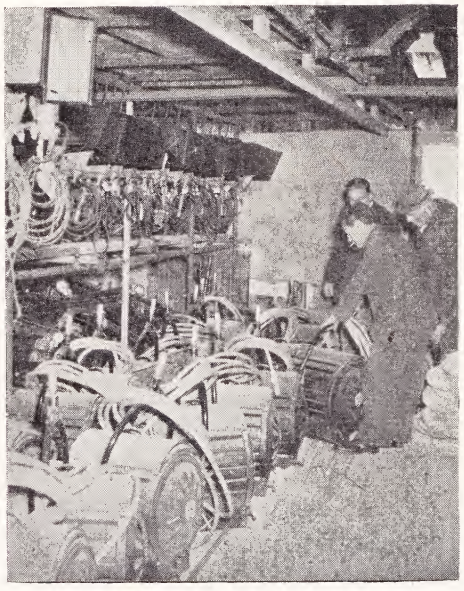
DRAKARD AND HUMBLE, 5, St. Pancras Station, Euston Road, N.W.1, Espando sections.

DREW CLARK AND CO., LTD., Leyton, E.10, Telescopic ladders.

FIDELITY ENG. CO., LTD., Alexander Road, Hounslow, Loop stands and airbreak contractors.

FILM COOLING TOWERS (1925), LTD., 10, Spencer Road, London, W.4, Draft cooling tower.

FOSTER TRANSFORMERS AND SWITCHGEAR, LTD., South Wimbledon, London, S.W.19, Panel studio distribution boards.



The large consignment of lighting equipment is checked as it is put into store until required

GB-KALEE, LTD., 60-66, Wardour Street, W.1, Synchronisers, rewinders.

GENERAL ELECTRIC CO., LTD., Magnet House, Kingsway, W.C.2, Fluorescent lighting.

GESTETNER, LTD., Aldwych House, Aldwych, W.C.2, Rotary duplicators.

G and R. GARAGE, LTD., 1-5, St. Mary's Road, Surbiton, Surrey, Motor trucks and vans.

GWYNNES PUMPS, LTD., 62-4, Chancellors Road, Hammersmith, W.6, Centrifugal pump.

J. E. HALL, LTD., Dartford Ironworks, Dartford, Kent, Refrigeration equipment.

HANOVIA, LTD., Slough, Bucks, Sollux lamp.

HOOVER, LTD., Perivale, Greenford, Middx., Hoovers and dustettes.

G. HUMPHRIES AND CO., LTD., 71-77, Whitfield Street, W.1, Camera and projector and equipment.

KODAK, LTD., Wealdstone, Harrow, Middx., Camera equipment.

LANG WHEELS, Hillingdon Heath, Uxbridge, Generating sets.

T. H. LAWLEY AND CO., LTD., 30, Portland Place, W.1, Crockery.

LEWIS NATLEY AND CO., LTD., 353, Finchley Road, N.W.3, Ford wagon.

LONDON AND MIDLAND STEEL SCAFFOLDING CO., LTD., Caxton Street, S.W.1, Scaffolding and accessories.

MARODON DISPOSALS CO., 140, Highgate Road, N.W.5, Shelving.

E. N. MASON AND SONS, LTD., 291-3, High Holborn, W.C.1, Wall photo copies and developing machine.

MOLE-RICHARDSON (LONDON), LTD., Hi Arc Works, Bashley Road, N.W.10, Miscellaneous electrical equipment.

Continued on page xliv

BRITISH FILM-MAKING STARTS *Here*

No stars — no stages — no producers or camera-men . . . yet this is the home of film production in Britain. It's a film-coating track at the Kodak Factory at Harrow. Millions of feet of 'Kodak' 35 mm. Film are made here every week, to meet the needs of the motion picture industry at home and overseas.

The overwhelming majority of British motion pictures are photographed on British-made 'Kodak' stock.

● *Among the Harrow-made 'Kodak' Motion Picture Films are :*

Plus-X (Code 1231), Background-X (Code 1230), Super-XX (Code 1282), Sound Recording (Codes 1301, 1358, 1372, 1373), Lavender Duplicating Positive (Code 1355), Duplicating Negative (Code 1505), Fine Grain Duplicating Positive (Code 1365), Fine Grain Duplicating Negative (Code 1203), Fine Grain Release Positive (Code 1302), Ordinary Release Positive (Code 1301).

KODAK

KODAK LIMITED · MOTION PICTURE FILM DEPT · KODAK HOUSE · KINGSWAY · LONDON . W.C.2

AROUND THE STUDIOS

by HARRY WHITE

Wilcox Plans to Set Up New Production Units

WILL ACCELERATE OUTPUT TO THREE A YEAR

HERBERT WILCOX is to step up the rate of his picture output. Instead of an average of one film a year he is planning to deliver at least three every 12 months.

The move is a direct result of the new quota figure, he told me. To fulfil this programme he intends to create new production units—he will probably continue to direct one picture a year himself and control the new outfits as producer.

"The 45 per cent. quota is an incentive to producers," he said. "It puts them in a strong position, particularly in the matter of finance. The City has been waiting for a development such as this—from now on finance should be easier.

"We must work harder," continued Wilcox. "Producers are under an obligation to create the number of films required. They must produce enough British films to put exhibitors in a bargaining position.

"But there is one thing we must guard against—we must make sure that quality does not suffer at the cost of quantity."

Quick on the Mark

Herbert "Box-office" Wilcox gave me these overall impressions of the situation created by the 45 per cent. quota decision in odd snatches while shooting the Crimean sequence for "Elizabeth of Ladymead" at Shepperton last week. To anyone watching him at work he resembles a 5 ft.-and-a-bit dynamo—hops on to the set to order this and that, then darts back to give you a sound reading on involved trade politics. He was certainly quick to sum up his policy towards the quota.

"Elizabeth of Ladymead" is, of course, his first Technicolor production with Anna Neagle starring since "Sixty Glorious Years." And from what I heard of the story it has that distinctive Wilcox flavour—Anna plays the part of a wife who dreams she is the wives, in turn, of husbands returning from four wars, the Crimean, Boer, 1914-18, and the recent world war.

Most of the action takes place in and around the house of Ladymead, and at Shepperton last week the unit was shooting a dramatic domestic scene with Anna in the Crimean period. The four cameos each have a distinctive tone, Anna Neagle told me—that is why she is deliberately refraining from seeing rushes. Concentrating too much on one style may interfere with the next change of atmosphere, but she thinks Technicolor adds a bigger interest to film making.

That opinion goes for the camera side, too, according to Max Greene, director of photography, and Bob Walker, camera operator. Both are tackling colour for the first time.

Max has a good store of interesting sidelines on the way Technicolor should be used. He thinks colour can be—and often is—overdone. The way he sets about creating his scene is to start with a neutral feature—the floor, ceiling or walls, etc. As the set is built up, touches—and only touches—of colour are added to brighten the picture.

And then lighting plays a big part. "Here's an instance," he said, waving his arms at the bedroom set in use. "That four-poster bed with the grey-blue cover and matching canopy is the colour feature. There's a lot of grey blue, and a flat overall lighting would be too much. To tone it down, the canopy is only flicked with light at the front edge, the remainder trailing off to much deeper shades."

Max, incidentally, is a big exponent of the non-vignette picture—framing a scene with a ridge of shadow is not his idea of making the best use of the picture as it will be seen on the screen. In Max Greene's films you will find the accent is on a technique that suggests something tangible on the flanks of the screen—a ray of sunshine coming, obviously, from a large window, the wing of a car suggesting a roadway, and so on.

Neither Max nor Bob Walker are finding any complications

with their first shot at colour. Walker told me that Herbert Wilcox always insists on plenty of camera movement in his pictures—not noticeable movement, but a well balanced sequence of angles.

He has just the equipment to help him get that movement in "Elizabeth of Ladymead." His Technicolor camera has been fitted to a new baby crane—in use for the first time—made by the studio. This crane is mounted on a dolly, which gives Walker an upward and outward swing of about 9 ft. 6 in.

It Must be Factual for "A Night With Madame"

VANDYKE PICTURES is gearing up for the last lap on its first full-length supporting feature—"A Night With Madame." It is the company's first serious attempt at factual settings—using, whenever possible, authentic locations rather than studio reproductions. Madame Tussaud's is the centrepiece for action in this picture. Houses in the Chelsea and Notting Hill Gate areas are also included in short sequences, and Marylebone studios were used to stage linking shots.

It was at Marylebone that I met Peter Graham Scott—directing a feature for the first time—and his unit. Police court interiors was the job on hand.

Peter told me that during a 14-day schedule at Madame Tussaud's, he was able to account for 35 minutes of running time, working 4 hours a day—from 7-11 at night. In all, he managed to pack in 135 set-ups.

Factual settings have their disadvantages, but Scott contends that the advantages—if script and production technique are properly preplanned—definitely outweigh the disadvantages. He found, during that fortnight in the wax works, that the main problem was noise interruptions—buses make a penetrating din in the dead of night, and chiming clocks have an awkward habit of going off in the middle of a take—and lighting.

Sam Lee, production manager, gave a few hints on the matter of

Continued on page xxxiii

Future Plans

BEACONSFIELD
Five story features (Crown Film Unit).

BUSHEY
"Swinging the Lead" (Advance Films). Starts July 19.

CARLTON HILL
Documentaries and instructionals.

DENHAM
"Adam and Eveline" (Two Cities. Stewart Granger and Jean Simmons in comedy rôles).
"Cardboard Cavalier." Sid Field to star, Walter Forde to produce (Two Cities).
"Trotty True" (Two Cities: GFD).

EALING
"Kind Hearts and Coronets" (director, Robert Hamer).
"Passport to Pimlico" (Henry Cornelius, director; associate producer, E. V. Emmett). On location, London.
"Whisky Galore" (director, Alexander Mackendrick). Starts July.

ELM PARK
Documentaries.

ISLEWORTH
"The Last Days of Dolwyn" (Emlyn Williams to star and direct) starts July 1.

ISLINGTON
"Vote for Huggett" (Ken Annakin to direct). Starts this month.
"Trek."
"Marriage Bureau."

MERTON PARK
Children's entertainment feature for GBI. Starts June 28.

MANCHESTER
"The Girl at the High School" Starts August.

MARYLEBONE
Third "Dick Barton" subject.

M-G-M
"Young Bess."

NETTLEFOLD
"Paul Temple in Scotland" (Nettlefold and Butcher's).
Untitled Corfield production.

PINEWOOD
"Far from the Madding Crowd" (Wessex-Technicolor).
"Fair Stood the Wind for France" (Cineguild—D. Lean, director; Stanley Haines, script).
"Warning to Wantons" (Acquila: GFD).
"Floodtide" (Acquila: GFD).
Third Acquila independent frame subject.
"Once Upon a Dream" (Gainsborough: GFD). Starts June 28.

RIVERSIDE
Three Kelly and Coplan subjects for UA (incl. "Lorna Doone").

SHEPHERD'S BUSH
"Mantilla."
"So Long at the Fair."
"The Wide Guy."
"Turning Wheels" (in Africa).
"Hiccough Girl."
"A Boy, a Girl, and a Bike" (on location).
"Sanatorium."
"Becher's Brook" (starts locations July 5).

SHEPPERTON
"I Bought a Mountain" (L. Arliss Production: British Lion).
"I Will Repay" (Rex Harrison to star).

TEDDINGTON
Untitled Dryhurst subject (Edmond Greville to direct, starts autumn).

VIKING
Untitled. (Tempean, production tentative).

WELWYN
"For Them That Trespass" (W. Ward, ABPC for Pathé). Shooting exteriors.

There are no future plans announced for British National, Isleworth, Southall, Twickenham, Windsor and Highbury.

Norman Lee directing "The Monkey's Paw" at Kay Carlton Hill Studios.

RELEASED THROUGH BUTCHER'S FILM SERVICE.

KAY'S
FILM STUDIOS

RCA

R.C.A. 35 and 16 RECORDING and DUBBING EQUIPMENT ★ SINGLE SOUND STAGE ★ DeBRIE & VINTEN CAMERAS ★ 16-mm. CINE KODAK SPECIALS FOR HIRE ★ CUTTIN ROOM ★ VIEWING THEATRE FILM STRIP PRODUCTION DEPT. ★ MOBILE GENERATORS UP TO 500 AMPS. STILL CAMERAMEN and FACILITIES

All enquiries to ROBERT KING

72a CARLTON HILL, ST. JOHNS WOOD, N.W.8

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AROUND THE STUDIOS—*cont.*

lighting factual sets. The main consideration is, of course, depth. It is essential to have plenty of room. In Tussaud's, the unit overcame the other lighting difficulty—height—by installing lamps at every possible nook and ceiling crevice. Bunny Onions devised some ingenious methods of overcoming our difficulties," he added.

Sound recording presented few serious difficulties—in fact the unit had to shoot no more than the usual quota of wild tracks. As for echo in the building, it was wanted, and it was there.

By the time the Vandyke unit has accounted for the two remaining house sequences it will have made a 63-minute second feature in three weeks and one day—a total of 20 shooting days.

Future Aims

That's what Vandyke has done. Some idea of the company's future aims were revealed to me by the Proudlock brothers—Roger and Nigel—who, with Sam Lee, are directors of the outfit.

"Obviously, the 25 per cent. quota on supporting features is a good thing from our point of view," said Roger. There are few people producing this type of picture, and one of the biggest—Rank's Highbury set-up—has packed in."

Then Nigel illustrated some of the savings on production costs. To make the wax works sequences for "A Night With Madame" in a studio the company would have needed a fair-sized floor. The rental for this without paying the principal technicians, would have amounted, he estimates, to £5,000 a week. The two weeks at Tussaud's, including payments for overtime for the exhibition's staff, gratuities and a few odd sundries, amounted to £200—a saving of £9,800.

At the same time, Nigel claims, the quality of the production is up to feature standard. "The experiment has been a definite success," he said.

"From now on, we hope to go flat out on this form of production," he continued.

But here he tempered justifiable optimism with hard facts—about finance. "The key to the whole thing is sound financial support," he said, "and I feel the best way to get that is to have a number of independent producers who are known to give their backers value for their money.

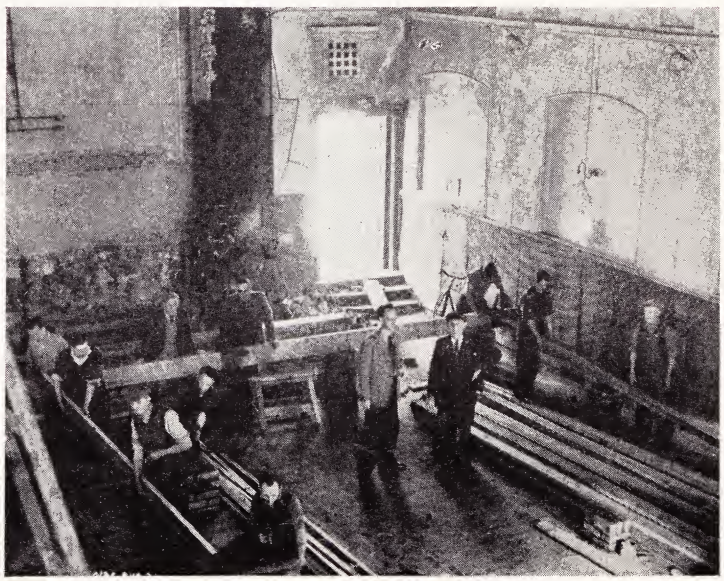
"I reckon a commercial figure, in present circumstances, for a full-scale 65-minute second feature is £7,000," he said. "It takes a lot of doing but it can be done," Nigel added.

On the stocks for production within the next three months Vandyke has a comedy in a theatre background. It will be another factual setting picture—a theatre in the East End of London is likely to be used.

The picture is being planned with the same fool-proof method of cost accountancy that was devised with "A Night with Madame." At any given time, the company's executives can see at a glance exactly how much each item is costing.

OUTLOOK FILMS IS GIVEN A NEW LOOK

Charles Leeds' Conversion of the Electric Theatre, Port Talbot, into a Studio



Art director Harold Watson (centre left) watches progress during the conversion of the Electric Theatre, Port Talbot, into a film studio for Outlook Films. This picture was taken during the floor-levelling operation. The picture on the right shows the exterior as a kinema

CHARLES LEEDS, production manager of Outlook Films, which is shooting "Blue Scar" in Wales, is a master at converting buildings into film studios. Many years ago he tackled a conversion job—a hall in a London studio. Originally, the place had at 4½ seconds reverberation—today it is the acoustically perfect Highbury studios.

Leeds' latest achievement is the conversion of the Electric Kinema, Port Talbot, where Outlook is forging ahead with interior work. It took him three weeks to turn this derelict building into a compact, efficient studio.

A local firm of contractors was called in and the first job to be tackled was the construction of a sound and steady floor which would not vibrate. Major obstacle to overcome was the 4½-ft. ramp extending from the back to the front of the auditorium. Over this the new flooring was built.

Next, the kinema had to be made soundproof. Windows were sealed up and the large door at the back of the hall—used for bringing in props—was proofed with heavy padding.

It was the roof that presented the greatest problem. Dome-shaped, it offered little scope for hitching up any solid material.

Leeds solved the difficulty with large and voluminous drapes. It was found that these could be fixed centrally to the roof without much trouble. Fixing them to the walls was not so simple, and at first the proofing sagged in great billows. Substantial hooks were inserted at key points and the structure was tautened. It has made the building as soundproof as any elaborate film studio.

Finding accommodation for dressing-rooms, offices and make-up room was comparatively simple. Spacious upstairs rooms, used formerly by the kinema management, were very soon rapidly converted for use. The old box-office was transformed into a make-up room.

For art director Harold Watson's department, Leeds went underground and tackled a large room previously used for housing the kinema's power-plant. Over the engine beds were built tables of a size suitable for the many large sketches drawn by Harold Watson for the authentic reconstruction of mining sequences featured in the film.

The unit's darkroom was constructed in an adjacent apartment. All that was needed now were the finishing touches.

Proof of the efficiency of Charles Leeds' conversion has been demonstrated in the first rushes of "Blue Scar."

The Crown Film Unit is to use Kilmarnock Youth Club as the prototype of youth clubs in Britain in a film to be made shortly on this subject.

TEMPEAN PLANNING SECOND SUBJECT

THE Tempean unit is making preparations for its second subject. The first picture, "Date With a Dream," has the prospect of an early Grand National trade show.

The new subject will be another musical, probably with a number of members of the cast of "Date With a Dream." Jean Carson is almost a certainty for the feminine lead.

Dickie Leeman will direct, with Robert S. Baker and Monty Berman as associate producers.

ANDERSEN CARTOON

Synchronisation and dubbing of the Hans Andersen fairy tale, "The Tinderbox," a feature-length cartoon in Agfacolor, started on Monday, June 21. The English version is being produced by Arthur Dent.

Michael Carr has written the English theme song, which is called "I Listened to My Heart," and is published by Keith Prowse. Keith Prowse is also publishing a piano selection of music from the film and Columbia is issuing gramophone records.

Synchronous dialogue is by Molly Stevens and synchronisation by the De Lane Lea process is under the supervision of Major De Lane Lea, of Inter-State Films.

Recruiting Films

Recruiting films by the National Coal Board will be shown in Dingwall after all.

The exhibition had previously been opposed on the ground that Dingwall, as a farming and hydro-electric centre, had no labour to spare.

Ultimately, by five votes to four, the approval was given.

Phantom—by Request

At public request, Universal-International's "Phantom of the Opera" is to be re-presented at the Tatler, Charing Cross Road, from Sunday, June 27.

Stars are Nelson Eddy, Susanna Foster and Claude Rains.

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SETPIECES

. . . The new Corfield-Huth film starring Margaret Lockwood and Griffith Jones, based on a *Saturday Evening Post* story, "I Know You," by Ketti Fring and Kurt Rotter, has had its title changed to "Look Before You Love." Considerable changes were made when the story was being adapted for the screen by scenarist Reginald Long, and it is considered that the new title gives in a nutshell the theme of the film.

. . . Lewis C. Coffin, chief of Washington's Exchange and Gift Division of the Library of Congress, told Sydney Box that "The Seventh Veil," a Sydney Box production, and "The Man in Grey," a Gainsborough picture, have been chosen for permanent preservation by the American Government. The latest production at Shepherd's Bush studios is a Technicolor version of "Christopher Columbus," starring Fredric March as the man whose ships led the way to the discovery of America.

. . . Location scenes have been finished for "Eureka Stockade," Ealing's Chips Rafferty-Gordon Jackson subject in production in Australia. It is the story of the Australian gold rush. Leslie Norman is associate producer and Harry Watt is directing.

. . . "Badgers Green," the last of Highbury's "curtain-raisers," is almost finished.

. . . Producer Antony Darnborough has signed Agnes Lauchlin for the rôle of Aunt Agatha in Sydney Box's new production for Gainsborough, "Once Upon a Dream," starring Googie Withers, Griffith Jones and Guy Middleton. Production starts at Pinewood shortly.

. . . Ealing's first Technicolor production, "Saraband for Dead Lovers," starring Stewart Granger, has been booked tentatively for a West End presentation on September 9. Michael Relph is associate producer and Basil Dearden director.

. . . Director George Cukor has started off on a brisk pace with "Edward, My Son" at M-G-M British studios. Scenes filmed during the past week involved the use of the new M-G-M British RO camera crane, built in the Boreham Wood machine shops from Culver City plans and specifications, under the supervision of chief engineer H. V. Williams.

Latest additions to the cast of "Edward, My Son" are Walter Fitzgerald and Olive Melbourne.

. . . In two days Outlook Films' unit, shooting scenes for "Blue Scar" in a South Wales coalmine, was responsible for cutting 50 tons of coal.

. . . Interested visitor to British studios recently was Zygmunt Sulistrowski, representing l'Institut des Hautes Etudes Cinematographiques Français (French Film Institute of Paris). He spent several months here on a business mission for the Institute which ranks as a film university. The university is undertaking commercial production—a unit of technicians who have passed their examinations in film production has been formed. It hopes to interest British producers in tie-ups for French sequences.

Current Production Chart

STUDIO.	TITLE.	WEEK.	PRODUCER AND RENTER.	CUTTING STAGE.
BEACONSFIELD	Sponsored subjects	—	Crown Film Unit : C.O.I.	Documentaries.
BRITISH NATIONAL	No production	—	———	"No Room at the Inn" (Br. Nat. : Pathe).
BUSHEY	Documentaries	—	———	"One Good Turn" (Ambassador).
BUSHEY (International)	"The Man From Yesterday"	7	International Motion Pictures	———
CARLTON HILL	Documentaries and Instructionals	—	———	———
DENHAM	"No Medals for Martha"	15	Two Cities : G.F.D.	"Blossoms of Sin" (Corfield-Huth : G.F.D.).
	"Look Before You Love"	10	Corfield-Huth : G.F.D.	
	"The History of Mr. Polly"	6	Two Cities : G.F.D.	"Mr. Perrin and Mr. Traill" (Two Cities : G.F.D.).
	"It's Hard to be Good"	5	Two Cities : G.F.D.	"Sleeping Car to Trieste" (Two Cities : G.F.D.).
				"Woman Hater" (Two Cities G.F.D.)
EALING	"Eureka Stockade" (In Australia).	—	———	"Saraband for Dead Lovers" (Ealing: G.F.D.). Technicolor.
	"Another Shore"	10	Ealing	"Scott of the Antarctic" (Ealing G.F.D.). Technicolor.
GATE	"Cockpit"	5	Gainsborough : G.F.D.	———
HIGHBURY	"Badgers Green"	4	Rank second feature : G.F.D.	"Fly Away Peter." "A Piece of Cake." "At Your Service."
ISLEWORTH	"The Last Days of Dolwyn" (Starts July 1)	—	Korda : British Lion	"The Small Back Room" (Archers: British Lion).
ISLINGTON	"Vote for Huggett" (Starts this month)	—	Gainsborough : G.F.D.	"Blind Goddess" (Gainsborough : G.F.D.). "Wedding Bells" (Gainsborough : G.F.D.).
MANCHESTER	No production	—	———	"Somewhere in Politics" (retitled from "That's My Man") John Blakeley.
MARYLEBONE	"A Night with Madame"	—	Vandyck Pictures (2 days schedule)	"Dick Barton versus the Ray of Death" (Marylebone Hammer : Exclusive).
MERTON PARK	Documentaries and Shorts	—	———	"The Fool and the Princess" (Merton Park : G.F.D.).
M-G-M BRITISH	"Edward, My Son"	3	M.G.M.	"The Guinea Pig" (Charter : Pathe).
NETTLEFOLD	No production	—	———	"The Story of Shirley Yorke." "The Glass Mountain" (Victoria).
PINEWOOD	"The Passionate Friends"	18	Cineguild : G.F.D.	"Esther Waters" (Wessex : G.F.D.).
	"The Blue Lagoon"	12	Individual : G.F.D.	
	"Once a Jolly Swagman"	11	Wessex : G.F.D.	"Red Shoes" (Archer : G.F.D.). "London Belongs to Me" (Individual : G.F.D.).
PORT TALBOT	"Blue Scar"	6	Outlook Films	———
RIVERSIDE	"The Small Voice"	10	Constellation : British Lion	———
SHEPHERD'S BUSH	"Christopher Columbus"	7	Gainsborough : G.F.D.	"The Bad Lord Byron" (Gainsborough : G.F.D.). "Portrait of Hildegard" (Gainsborough : G.F.D.). "Quartet" (Gainsborough : G.F.D.)
SHEPPERTON	"Elizabeth of Ladymead."	10	Imperadio : British Lion	"It's Not Cricket" (Gainsborough : G.F.D.) (on location). "The Lost Illusion" (Carol Reed : British Lion). "Bonnie Prince Charlie" — Technicolor (London Films : Br. Lion). Summer location to end production. "The Winslow Boy" (World Screenplays).
SOUTHALL	"They Cracked Her Glass Slipper."	7	Alliance/Anglofilm : G.F.D.	"William Comes to Town" (Alliance : U.A.).
TEDDINGTON	"Silent Dust"	10	Independent Sovereign : A.B.P.C.	"Noose" Edward Dryhurst : (Pathe).
TWICKENHAM	"They Cracked Her Glass Slipper" (with Southall).	7	Alliance/ Anglofilm : G.F.D.	"The Brass Monkey" (Alliance : U.A.).
VIKING	No production	—	———	"The Penny Doctor" "Date With a Dream" (Tempean : Grand National).
WELWYN	"For Them That Trespass"	1	Associated British	"Queen of Spades" (Associated British: Pathe)
WINDSOR	No production	—	———	"Melody in the Dark" (Advent Productions).

. . . Two Cities is making plans to put another film into production at Denham towards the end of this month. It will be a Sid Field comedy—tentative title is "Cardboard Cavalier."

Walter Forde will produce and direct. Casting is in progress.

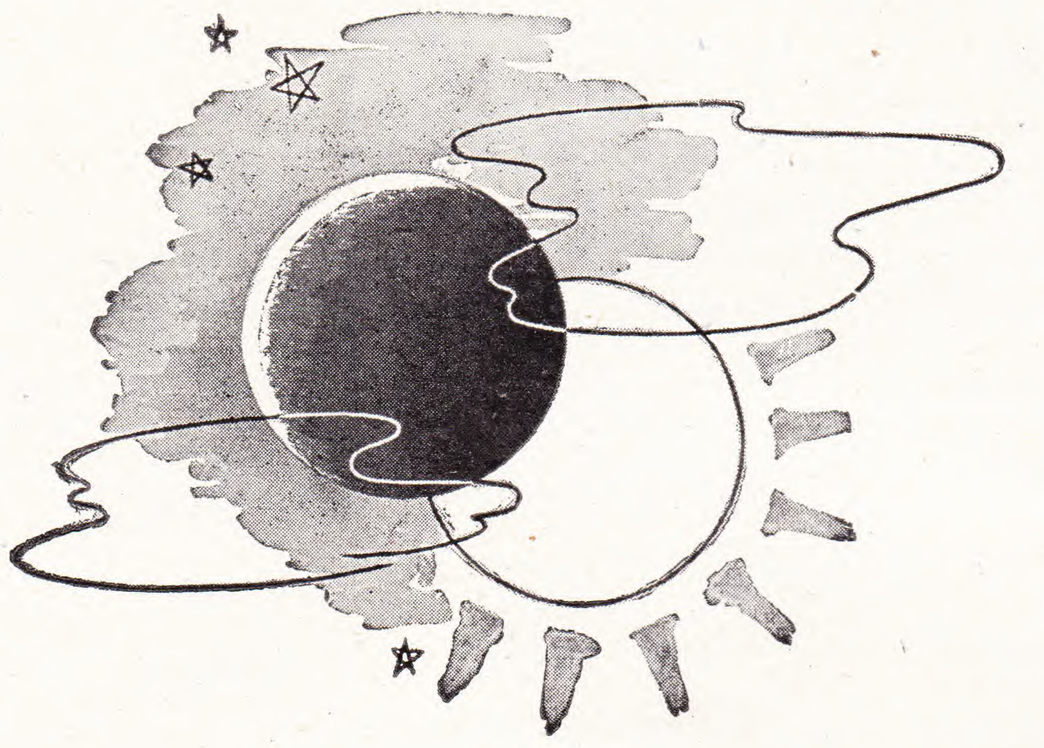
. . . "Vote for Huggett," the new Sydney Box family film, took the floors at Islington at the beginning of this week. As reported in last week's KINE., the time lag between the finish of the first picture in this series—"Wedding Bells"—and the start of the second was taken up for re-soundproofing the buildings.

. . . A special lift was built for the camera and camera crew to film the mountain road sequence in "The Small Voice" (Constellation) on the sound stage at Riverside Studios. It reached almost to the roof of the stage, its nearly perpendicular slope was covered with trees, shrubs, grass and plants. Over five tons of plaster went into its construction, and Bill Knapman's plasterers finished their part of the job in four days.

Valerie Hobson, James Donald and Harold Keel, Michael Balfour and David Greene took part in sequences on this mountain side.

On the lot hired from the L.C.C. the stretch of exterior mountain road progresses steadily. Owing to its size and involved construction it will, however, be a fairly long job and is yet hardly out of the scaffolding-and-timber stage.

KAY'S



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STUDIO POWER SUPPLY REQUIREMENTS

The Need for Voltage Stability and Measures Necessary to Eliminate Unwanted Ripple

By F. S. HAWKINS, PhD, ARIC, MBKS

THE requirements of the studio power supply in regard to consistency of voltage and freedom from ripple were the subject of a recent paper read by F. S. Hawkins, PhD, ARIC, MBKS, who is research chemist and physicist of the research laboratories of the General Electric Co.

Dr. Hawkins pointed out that studio illumination was used only when the camera shutter was open; distribution and intensity must be the same each time this happens. It is not essential that the illumination should remain constant while the shutter is open, but the photographic effect must be the same for each frame. A high degree of silence is necessary when sound is being simultaneously recorded.

These requirements could theoretically be fulfilled by light sources which flashed 24 times a second, in phase with the camera shutter, but such systems have practical difficulties. Steady and continuous lighting is the simplest and most convenient.

Each of the three types of light sources used, tungsten, carbon arcs and mercury arcs, gives a light output which varies considerably with the voltage. By means of charts the speaker demonstrated that the variation was least with the mercury arc.

Load Variation

Either source of DC, a generator driven by a prime mover, or a rectifier run from the grid, suffers a change of voltage as the load varies. Further, they both supply rectified alternating current, for a DC generator is, in fact, an alternator fitted with a rectifying commutator; thus the supply from either has a ripple superimposed upon the steady unidirectional voltage.

Dealing first with the change in mean voltage due to variation in load, Dr. Hawkins reported a number of experiments with various types of lamps. Although the colour response of a photographic emulsion is different from that of the eye, it is probable that if there is no visual change of colour, there will be no change in the response of the emulsion. In the case of tungsten there is an increasing redness in the visual colour as the line voltage decreases, and if a red-sensitive emulsion is used this will tend to offset the effect of the decrease of intensity.

The suggestion had been made, he said, that a fall in the voltage at the terminals of the lamp should be compensated by switching in more lamps. It was shown that a drop of 5 volts below the rated figure of 115 volts requires at least a 10 per cent. increase in the number of lamps, while if the voltage drops as low as 100 volts the number of lamps required increases by 80 per cent. for carbon arcs, 40 per cent. for mercury, and 60 per cent. for tungsten. Further, this increase in the number of units will still further increase the voltage drop in the feeders and the load on the generating plant; thus to maintain the intensity of light when the voltage at the lamp terminals has fallen from 115 to 105 volts will require a power output increase of 9 per cent. for carbon arcs, 13 per cent. for mercury, and 25 per cent. for tungsten.

It is thus advantageous to maintain the rated voltage of 115 volts at the lamp terminals, even if this requires a higher voltage at the power-house busbars.

Effect on Recording

Turning to ripple, Dr. Hawkins stated that it was not found to be of sufficient amplitude to have any appreciable effect upon the film exposure by causing heterodyne beats; but it exerts a deleterious effect upon the recording of sound. It is usually the arcs that are heard to emit an audible note, but other fittings are not always free from blame; any conductor that is free to vibrate will do so. The increased effect in the case of the arc is due to the fact that the arc flame is free to move, and it vibrates in sympathy with changes in the electrical and magnetic fields surrounding the arc, and so emits a note having the ripple frequency.

If the supply has its ripple reduced so that the arcs are quiet, then there seems to be no danger that other fittings will vibrate, or that the sound-recording equipment will pick up the note electrically. In order to measure the least audible ripple voltage it was first necessary to secure an arc burning without ripple noise, and then superimpose upon its supply a ripple whose voltage was measured. In the circuit used for this purpose a ripple generated by a beat frequency oscillator was introduced into the arc supply from a generator having a low ripple content, with a choke to remove the last traces of an audible note. The ripple value was measured upon a cathode-ray tube.

Arc Noise

Dr. Hawkins first demonstrated the cause of the noise emitted by an arc flame by projecting upon the screen a stroboscopic image of the flame, by means of which the varying shape of the flame at different positions of the ripple cycle could be studied. It was observed that both the blue core-flame and the shell-flame varied very considerably during the ripple cycle.

He next demonstrated the circuit just described, adjustment of the oscillator enabling the ripple to be varied in frequency and amplitude; the ripple could be observed on a cathode-ray tube, while the noise from the arc was picked up by a microphone and reproduced on speakers. Over the amplitude range from 1 volt to 30 mv. the note was clearly audible at all frequencies; as the amplitude was reduced to 10 mv. it could be heard only in the higher frequencies.

Audibility of Ripple

Results of tests were shown on slides, plotted against the sensitivity curve of the ear; as might be expected, the curve of minimum audible ripple followed closely the sensitivity curve. It is said, said Dr. Hawkins, the lower band of frequencies from, 300 to 3,000 c/ps., that is of particular interest to the studio engineer; typical figures for the audible ripple were 22 mv. at 300 c/ps., and 6 mv. at 3,000 c/ps.

Therefore the ripple voltage of the supply must not exceed these quite small values; it is usually, but not always, necessary to insert some form of filter into the circuit.

While the foregoing tests were made with a sinusoidal ripple voltage, investigation showed that in the actual studio the ripple was of a complex waveform. On one particular 3-wire supply the ripple was found on analysis to consist of a fundamental at 28.4 c/ps., modulated by a high-frequency ripple at 1,080 c/ps. 30 mv., the latter only being audible. Measurements in a number of studios substantially confirmed the laboratory findings in regard to audibility of ripple.

Suggested Equipment

Dr. Hawkins next turned to the design of equipment to meet the requirements outlined. If AC is available from the grid, there is the alternative of installing either a pumpless steel tank rectifier or a motor-generator set. The necessary voltage control in the former case can be obtained by an induction regulator or by the action of control grids on the ignition of the rectifier arcs; the removal of the ripple is effected by a suitable filter. In the case of the motor-generator, the effect of changes in mains voltage can be eliminated by using synchronous motors; voltage changes arising from change of load can be reduced by the use of compounded generators or automatic voltage regulators. Ripple from a generator can be considerably decreased by suitable design; a small filter can also be used if necessary, consisting of a choke having a high impedance to the ripple but a low DC resistance, together with a capacity in parallel with the load.

It has been the practice to use a choke in series with each arc lamp, without a parallel condenser; the arrangement suffers from the disadvantage that a portable choke will have an appreciable DC resistance, and the voltage at the lamp is decreased by the voltage drop in the choke. A typical choke might have an inductance, with 150 amps. DC flowing, of 6 millihenrys, a DC resistance of 0.09 ohms, and a voltage drop of 13.5 volts; it would weigh 2 cwt. and would dissipate over 2 kw. The inclusion of a capacity enables the inductance of the choke to be reduced to 20 micro-henrys.

Consequently, it becomes practicable to smooth the whole output of a generator by means of one filter, which takes the form of a conventional low-pass filter. Typical values are 20 micro-henrys for the choke and 20,000 mfd. for the condensers.

Power Distribution

Turning to problems of distribution, the speaker pointed out that in the usual arrangement of a central power-house and heavy copper or aluminium feeders running from the power-house to the studios, the DC may amount to 10,000 amps. or more, even when a three-wire system is used. If the voltage drop is to be kept to a low figure, feeders having a large cross-sectional area are required, which becomes expensive.

In addition, there is the voltage drop in the flexible cable to the lighting fitting, which may be about 1 volt per 50 ft. of single cable. Thus, it is easily possible for the volt drops between the power station busbars and the terminals of a lamp to be as much as 5 volts. The elimination of this loss of voltage is desirable, but is difficult to achieve without a radical change in the method of distribution.

In the course of this discussion, Dr. Hawkins suggested that an alternative method to meet this point might consist in mounting rectifiers upon trucks, which could be parked close to the studio floor.

C. Hillyer, A. W. Watkins (the chairman) and others spoke on the relative merits of rectifiers and generators, the latter suggested that we in this country are so far ahead of the United States in rectifier design that we should take advantage of new developments.

George Gunn suggested that in cases where two similar generators were run in tandem, ripple might be eliminated by ensuring that the ripple frequencies were in opposite phase; Dr. Hawkins replied that this would necessitate very rigid coupling of the machines, in view of the small distance between the slots which were the cause of the ripple.

S. A. Stevens pointed out that this principle was normally applied to rectifiers, giving a de-

Continued on page xliv

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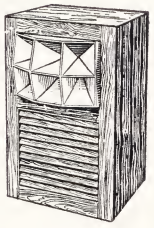

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BRITISH-MADE MAGNETIC RECORDER

In the following article, R. H. CRICKS, FRPS, FBKS, examines progress made by Electrical and Musical Industries in the development of the system

THE possibility of adapting the principle of magnetic recording to the requirements of studio recording is exercising many British technicians.

Dr. O. K. Kolb, of British Acoustic Films, is one who has been closely studying the application of the principle to the requirements of the studio worker with subsequent re-recording to a photographic point. In particular, he has overcome the problem of cutting the magnetic track by making the modulations visible.

It must be admitted that we in this country have been slightly less advanced than some other countries in the development of magnetic recording, for instance, the Magnetophone which, developed in Germany before and during the war, has been experimentally tested out in France and Luxembourg radio studios. Work on similar lines is also in progress in America.

In England at least two firms—EMI and General Electric Company—are actively engaged in the production of equipment, and there are several firms making the tape.

EMI Demonstration

Recently I accompanied Dr. Kolb to the EMI factory at Hayes, Middlesex, to witness a demonstration of the system arranged by J. H. A. Whitehouse and J. Barrett, who has been closely identified with the development of the British process.

The EMI tape recorder, built inside a steel cabinet, is identical basically with the Magnetophone; three motors are fitted, one of which drives the constant speed drum which draws the tape past the magnet heads, the second drives the take-up, while the third rewinds the tape at ten times the recording speed, of 77 cms./sec.

An interesting point is that these motors are placed right in the bottom of the cabinet, connected to the drum and the discs by flexible couplings. The object of this is to prevent pick-up of stray magnetic fields by the magnet heads, which are rather susceptible to such pick-up.

The usual three magnet heads are fitted, respectively, for erasing, recording, and play-back (the first working at 75 kc/s. The change over is effected simply by pressing buttons on the control panel. A further refinement is a dial, driven by the constant speed drum, which enables any section of the reel of tape to be selected for playing.

We heard a number of different recordings. I have always favoured a good treble response, and I found the quality superlative. A piano one could never have distinguished from the real thing; a kettle-drum, a triangle, castanets and other difficult sounds were admirably reproduced. The only shortcoming, I thought, was a slight lack of bass response; this might have been partly due to the limited size of the speaker housing, but it was apparently also associated with the inherent properties of the recording medium.

The really outstanding point about the reproduction was the total absence of ground noise. By listening intently one could detect the amplifier noise, but this was practically unaltered when the tape was started up. A signal/noise ratio of 60 db. is claimed.

Frequency Control

There is a number of factors controlling the frequency response. Most obvious is the gap effect—the equivalent of the slit effect in photographic recording and reproduction. Although the gap is exceedingly narrow, it does cause a certain high-frequency loss, rather in the reproduction than in the recording, since it appears that the recording flux is concentrated on the trailing edge of the gap. As I mentioned previously, azimuth is even more important than with a photographic system, while another factor is that in course of time the continual rubbing of the tape against the magnets causes the slits to wear; consequently, the heads are made with a delicate adjustment for azimuth and are easily renewed, although a life of 1,000 hours is claimed. As against this, some types of tape tend to have a rising frequency characteristic in the treble.

As regards the bass, the inductive effect existing between the magnet and the tape results in a falling bass characteristic, which has to be equalised in the amplifier. The curves reproduced relate actually to the French Magnetophone, and indicate how the drop in the bass is compensated for by the falling treble characteristic of the amplifier, producing almost a straight-line response, but with a slight hump at 8,000 to 10,000 c/ps. (I am indebted for this curve to Monsieur Lissiloue, of the firm of SYMPA, of Paris, agents for the Magnetophone.)

The existing EMI equipment has been designed primarily to provide a recording medium for broadcasting—the BBC has been closely interested in its development. No attempt, therefore, has been made to introduce a response above 7,000 to 8,000 c/ps., this, of course, at the tape speed of 77 cms./sec.

On the other hand, Dr. Kolb claims to have achieved a response up to 10,000 c/ps. with the tape running at the normal speed of kinematograph film, of 18 in. or 45 cm. per second—a feature which the EMI technicians regarded as something of an achievement.

Production of Tape

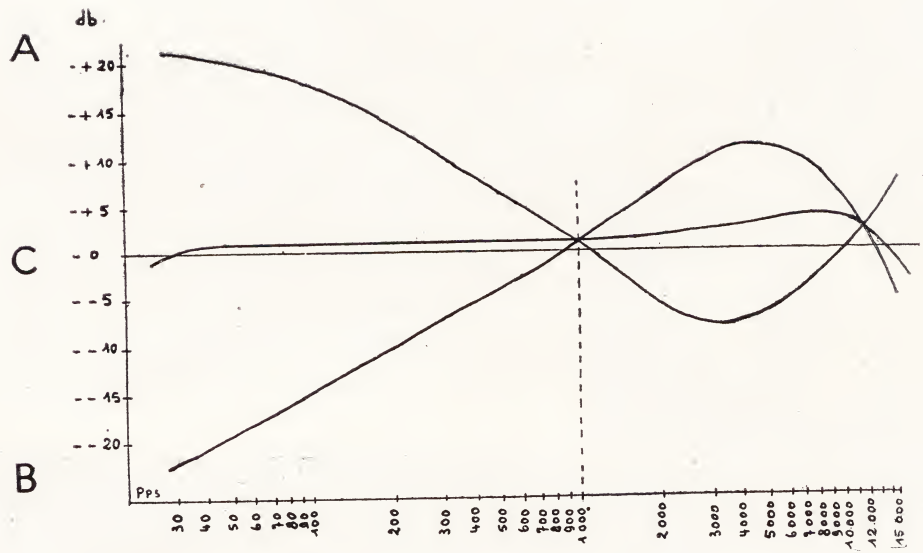
The production of tape is itself something of an undertaking. It is essential that the particles of iron oxide shall be of even size—closely approximating to 1 micron, or 1/25,000th inch. They must, too, be evenly dispersed in the medium. Experiments are in hand in the United States in the use of Alnico and similar alloys in place of iron oxides, but the difficulty appears to be that excessive power is needed for erasing.

The base also is of considerable importance. While poly-vinyl-chloride has been largely used, EMI favour acetate. I heard one reason for this: the BBC found that, using p.v.c. tape it was possible to record a half-hour programme; in course of rehearsals the tape would stretch, resulting in the final reproduction lasting for 35 minutes! This difficulty has been almost entirely eliminated by the use of acetate.

A Disc Machine

Another application of magnetic recording which we saw was a disc machine, intended primarily for office dictation. The machine itself has the appearance of an ordinary portable gramophone; the disc, which is in appearance just like brown paper, is secured on the turntable by a plastic disc, carrying a groove, with which a needle on the recorder arm engages. The disc gives three minutes' playing time, of a perfectly adequate quality for speech—3,000 c/ps. is the maximum claimed, but voices were perfectly intelligible and recognisable.

Elsewhere in the factory we examined a disc recorder developed to the ideas of the BBC engineers; it appeared to combine every possible refinement—fully automatic drive of the cutting-head, either from edge to centre or from centre to edge; automatic lifting and dropping of the head; adjustment for angle of cut; provision for varying the frequency response automatically from the outside to the inside of the disc, or *vice versa*. We also saw some radio equipment which amazed us by its compactness.



An example of the curve characteristics of the French Magnetophone. (a) Amplifier curve of the reproducer. (b) Amplifier curve of the recorder. (c) Resultant curve of recorder and reproducer

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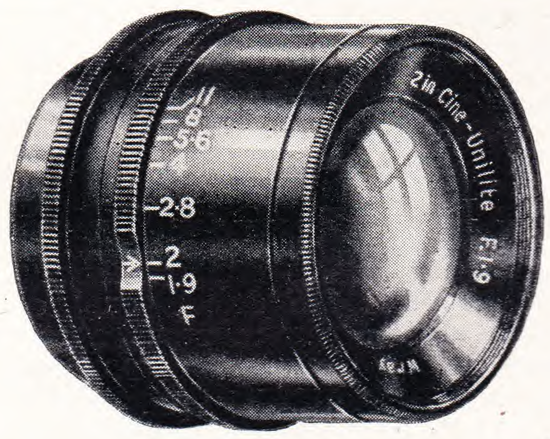

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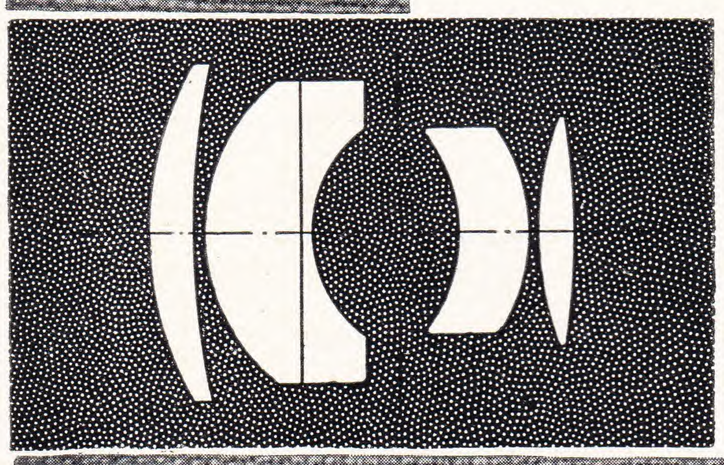

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COLOUR IN THE LABORATORY

by J. H. JACOBS, MA, MBKS

The chemical and laboratory aspects of the colour film are described by J. H. Jacobs, MA, MBKS, chief chemist of Denham Laboratories, in the following article based on a paper recently delivered to the BKS

STARTING from fundamental concepts, there are four ways of producing colour: By means of dispersion, as by prisms; by interference, as by diffraction gratings; by means of pigments; or by dyes. The first two have not proved practicable in relation to the film; pigments have some application in colour photography, but dyes may be said to constitute the main line of attack. Over 1,000 dyes are listed. Research has indicated that the molecular structure is closely related to the colour.

Many colour processes depend on the chemical formation of dyes during the development of a latent image, mostly involving what is termed "coupling." In materials of the indoaniline type, the coupling is brought about in an oxidation process. When a photographic developer reduces silver bromide to metallic silver, the developer is oxidised; if a mixture of dimethyl p-phenylene diamine and alpha-napthol is used as a developer—fortunately it does develop—a dye image of indophenol blue is laid down side by side with the silver.

Coupler Formula

It is chiefly the coupler which determines the particular colour produced. These couplers may all be represented by a general formula consisting of a $-CH_2-$ group, called the reactive methylene group, and two radicals, represented by R_1 and R_2, the reaction being:—

$$R_3 - N = O\ H_2C \begin{matrix} R_1 \\ R_2 \end{matrix} \longrightarrow R_3 - N = C \begin{matrix} R_1 \\ R_2 \end{matrix} H_2O.$$

The grouping $-N=C$ is characteristic of all these colour-developed dyes.

The practical methods of achieving colour differentiation may be listed as follows:—

1. Separate treatment—stripping film.
2. Successive matrix printing—Technicolor.
3. Successive sensitisation—Feer-type.
4. Diffusion—early Kodachrome.
5. Selective fogging—later Kodachrome.
6. Anchored couplers: (a) long chain—Agfa, Ansco; (b) resin binders—Ektachrome.

In the first method, the coloured images are formed in layers which are attached to temporary bases, and the finished picture is made by transferring these layers to the same final support. Technicolor, made by the second process, is similar to Kodak wash-off relief.

Recently a process has been proposed in which an image of a single colour is produced, the stock is re-sensitised and a second image produced, and the same for the third colour. The process necessitates printing by ultra-violet light.

In the early Kodachrome process the problem of developing each layer a different colour was overcome by the fourth method, using a bleach of low penetration after all three layers had been developed to cyan. This bleached the top two layers, which were re-developed to magenta; a weaker bleach affects the top layer only, which is re-developed yellow.

Processing Methods

The method was eventually replaced by the fifth type of process. The film, developed to black-and-white, is exposed through the base to red light, which fogs only the layer destined to be cyan, and this is colour-developed. Then the top layer is exposed to blue light and developed with a yellow coupler. The middle layer is next fogged and developed magenta. The silver is then bleached out in the usual way.

As far back as 1911, Rudolph Fischer proposed to put the couplers in the appropriate layers during the manufacture of a film, so that all three colours could be produced with a single development. The problem of diffusion of couplers was finally solved by Agfacolor, by anchoring the couplers with a long aliphatic chain; in the coupler used, known as Ta 521, the chain is of 18 carbon atoms, and effectively prevents movement of the molecule within the gelatine.

In Ektachrome another solution has been found. The couplers are dissolved in a resinous material which is dispersed as small globules in the emulsion.

The chief interest which these anchored-coupler materials have derives from the fact that they may be processed with little alteration to a laboratory's machinery. Although neither Agfacolor nor Ektachrome is likely to be available, there are one or two firms which are busy evolving processes fundamentally of this type. When such a process arrives, it will be a negative-positive process, and the ability to make dupes will be of paramount importance for full-scale motion-picture production.

Developing Agent

The developing agent used with this type of film is diethyl p-phenylenediamine, a material with toxic properties. The developing solution contains a strong alkali which brings the *p*H up to about 10.5. The solution may also include a clearing agent such as hydroxylamine hydrochloride and a small amount of sulphite. The negative film, after six minutes' developing, goes through spray washing, bleaching, washing, fixing, and a final wash.

As the positive film will be carrying a sound track, unless an antimony-cassium photo-cell is used in the reproducer, it is necessary to employ a viscous bleach which is applied to the picture area only of the film. The silver is thus removed from the picture area, but not from the sound track. The yellow filter has also to be removed from all parts of the record by a weak bleach.

As regards the chemical analysis of the baths, colour developer content may be ascertained chemically or colorimetrically; the speaker described a suitable type of photo-electric colorimeter. Hydroxylamine may be determined by titration, as may bromide. Sulphite and alkalinity are determined in the usual way.

Sensitometry methods may be used to get general information about the density and gamma; details of the individual layers may be obtained by fitting a densitometer with narrow-band colour filters, although the method is complicated by the fact that the dyes have not ideal cut-offs. Another approach is to use three wedges to match the colour and density of the sample; suitable instruments have been developed in Germany and America.

Transmission Variation

Differences in the colour transmission of the negative and positive dyes must be considered. While the negative dyes have to have wide bands, the positive dyes have narrow cut-offs; one result of this is that the positive requires a negative which is visually out of balance. Filters must be used in printing, the selection being made in an elaborate grading process.

For making dupes, the use of the masking method has been suggested. In one method, the negative may be developed to a gamma of .8 or .9, the overall contrast being cut down by using a positive mask of gamma .3, the mask being produced by fogging the partially fixed film.

BKS MOVE

Due to expiry of lease, the British Kinematograph Society is vacating the premises in Dean House, Dean St., W.1. as from June 24, temporary accommodation has been provided by courtesy of Merlin Films at 53, New Oxford St., W.C.1. Telephone Temple Bar 2092.

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Letters

DON'T LET SCIENCE DAZZLE US

Simplification, not complication, and a greater knowledge based on practical film-making experience is wanted by our backroom boys, especially the television-minded ones. This is the viewpoint expressed below.

JOHN IRWIN in the May KINE. STUDIO states that for some time it has been apparent to all engaged in the production of films that some formulæ must be found for increasing the number of films produced and to reduce production costs. He further states that unless one is prepared to sacrifice quality by economising on salaries, sets and time used on production, the only solution is a completely new technique, and the only new technique for making moving pictures is television.

What exactly is this new technique of television? I for one am left wondering what advantages other than topicality the television director has over his film counterpart.

Final Result

John Irwin considers that the film director, no matter how careful he has been in the preparation of his shooting script, frequently fails to achieve the final results he has hoped and worked for, because he is unable to judge the final result of what he is shooting, and is therefore frequently "surprised" at what he sees in his rushes. The television director, on the other hand, has the great advantage in that he is in complete control of the picture he is *transmitting* (my italics), in that he simultaneously sees his picture, hears his dialogue and the music and special effects which may have been blended in, exactly as the audience will see and hear it. (No mention of whether a receiver in Surbiton sees the same quality picture as the director in Wood Green.)

I have emphasised the word "transmitting" because, in my opinion, that is exactly where the film director has the great advantage over the television director. With the film there is no question of it being shown as it is shot. The film director fully controls his subject. Irwin carefully avoided mentioning this fundamental difference.

The Script

Film directors, too, have the ability to judge a script as it will appear in its final form, but if for one reason or another it does not quite turn out as they have visualised, or they or somebody else has a better idea, then there is considerable control available afterwards.

Whether or not Irwin's prophecies with regard to television in the future may come true before the end of the century I am not at the moment concerned. Let us, however, face up to the fact that at this early stage in the marriage of television to kinema, we are hearing far too much of what television can do to help films and not enough of what the film can do to help television.

We in the film production industry are already being regaled with all sorts of wonderful ideas in remote and "tele" control. For example, in the same issue of KINE. STUDIO, Sir Robert Watson-Watt is reported as saying that to save lighting time on the floor, it is possible to conceive a battery of nearly fixed lights on the set, controlled by a kind of Wurlitzer immediately under the control of the lighting cameraman.

We are left in no doubt whatsoever that such a prophecy, coming from such an eminent authority as Sir Robert, is indeed possible; but the fact remains, is it worth the time, effort and money to put such a system into practice?

To set a lamp may require one or more of eleven separate mechanical operations. To make these fully automatic by remote control would necessitate the design and construction of completely new lighting units. At the present time a set can be "rigged" in a matter of hours, and all that is needed to feed each lamp is a two-pin plug at the end of a two-core cable. How much longer would it take to "rig" a set with remote-controlled lighting units? How many extra men would it need to do it in the same time as now? How much extra equipment and cables would be required to be "rigged"? And how much more complicated would all this equipment be?

Manpower

Now consider the actual shooting. Have we saved using a crew of electricians on the spot rail (who would, no doubt, still be required for the previous rigging and maintenance of this mass of complicated and elaborate equipment) and time? The cameraman at his mighty Wurlitzer can still set only one lamp at a time, and I suggest that he will very often want the stand-by "chippie" to climb a spot-rail to fix a "nigger."

Sir Robert is further quoted as saying that it might be possible to use Radar principles to keep the camera and the lights trained upon a moving person, and indeed there has recently been demonstrated such an automatic lamp. This device, no doubt, has taken much time, effort and money to develop.

But for what practical purpose?

It should be pointed out that the principles of lighting for moving pictures does not depend on moving lights. Ask any cameraman how often he has a light following an artist about the set.

Remote Control

As for remote-controlled cameras and television finder systems, these may have some very occasional use, particularly if one likes to be surrounded by gadgets.

I would suggest that if science would help us to make our job easier, quicker, better and cheaper, then it directs its resources into solving more immediate and practical problems. It can be acquainted with these problems by spending some time on the floor and meeting and talking to the men who actually make pictures, but whatever the final solutions, they must be based on "simplification" and not "complication."

Newcomers from the television field and from other industries should also realise that the film production industry has reached its present state of perfection over a period of 40 years. There always will be two fundamental and underlying facts that make for efficient quality productions, neither of which can be plotted on graph-paper. The first is to have control (remote or otherwise) in the hands of people with real practical experience, and the second is to have a congenial atmosphere permeate throughout the entire studio.

HARRY WAXMAN.
Camera Dept.,
Denham Studios,
Uxbridge.

In the Words of Augustus John

BEING as uncertain in replying to personal attacks (open or veiled) as I am to achieving a solution to the problem, which—as I readily admitted in my recent article—each shot, each set and each story presents to me as a new and aspiring lighting cameraman, I have delayed answering Harry Waxman's trumpet blast until finally forced to do so by the cries of my friends, who not only goaded me on but also suggested a few words I might employ.

However, an associate has shown me a passage from the autobiography of one who has devoted a long and honourable life to creation in a purer sphere than our own; and it struck me forcibly and at once that it contained the essence of my own belief and approach to my job, together with a definitive comment on Harry Waxman.

"The facility with which many artistic explorers . . . set to work, at once, in cold blood and without a moment's hesitation, is astonishing . . . and implies a lack of sensibility. Without a long study, trial and many a failure, the secrets are apt to be withheld. As with a beautiful woman, courtship, not violence, wins the prize."

The words belong to Augustus John—and I am grateful to this veteran artist for showing me (and perhaps our Harry?) that humility is a quality that is not less becoming with age, experience, and after considerable personal achievement.

No more need be said. I step down from the "High Pavement" of certainty back into the gutter of doubt with the "Guinea Pigs"—and leave our Harry the undisputed possessor of the field!

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PHASE MODULATION IN RECORDING

Inventor Describes Valve System Which Makes the System Possible

A NEW principle which may revive the popularity of the condenser microphone, eliminate interference from power circuits, improve quality, and even lead to the substitution of the microphone cable by a radio link, was introduced to BKS members.

It is the adaptation of phase modulation to the microphone circuit. The speakers were J. A. Sargrove, inventor of the Phasitron, a novel valve circuit which makes the system possible; D. A. Ball, who described the practical details of the circuit; and Norman Leevers, who first suggested the adaptation of the system to sound-on-film recording.

Form of FM

The first speaker was Norman Leevers, who defined phase modulation as a particular form of frequency modulation. It may appear in recording in an unwanted form, as by variation of speed of the carrier; its use in the microphone circuit has certain advantages. It would be possible actually to record a frequency-modulated carrier wave, but the present proposal was merely to use phase modulation in the transmission circuits.

Mr. Sargrove first explained the relation between frequency modulation and phase modulation. If a radio carrier wave of constant amplitude is altered in phase, the effect is equivalent to a change in wavelength. It is possible to get to the point where one phase is in opposition to the other.

A condenser microphone can be used as a capacitor in a tuned circuit; alteration of its capacity will alter the frequency of the circuit and modulate the wave. Thus, by connecting an oscillator across a condenser microphone, we have an easy way of directly influencing the phase of a carrier.

The Phasitron

Mr. Sargrove traced the development of the Phasitron to the early days of superhet, receiver design. In 1932 an American valve was designed, having a cathode control grid, a positive accelerator grid, another control grid, and another positive accelerator grid.

The speaker described the functioning of this valve by means of a new type of notation, in which the movement of electrons from the cathode was plotted against time. He illustrated how the second control grid was able to influence the first control grid, due to the deflection of low-velocity electrons backwards through the first positive grid. The time of transit for electrons was only of the order of 10^{-8} seconds, but since frequencies of the order of 40 kc/s. were involved, the times were commensurate.

The circuit developed consisted of a valve of this type, with the upper negative grid fed from an oscillating circuit, having a frequency of the same order as the transit time of the electrons in the valve. Experiment showed that this resulted in the first grid passing current in exact harmony with the oscillator frequency.

A Phasitron circuit can thus comprise any valve having a minimum of one negative electrode, one positive electrode, and another negative. Mr. Sargrove showed mathematically that in such a circuit the anode current was a function of the phase difference between the two grid voltages; it was directly proportional to the phase angle between the two oscillatory voltages on the grids.

In its latest form, a single valve, a triode-hexode, was used, the triode serving as the oscillator. It could be used to measure any function that consisted of a variation of capacity, and Mr. Leevers had suggested its adaptability to the condenser microphone.

Condenser microphones, continued Mr. Sargrove, have tended to be made smaller and smaller in order to prevent frequency doubling. The smaller the diameter the less the capacity, and the larger must be the feed resistance, until at a figure of 100 megohms it becomes impracticable to feed into a commercial amplifier.

Experiments have shown that the displacement of the diaphragm of a condenser microphone is only of the order of a wavelength of light. The circuit thus provides a direct means of measuring minute impulses. The circuit is, however, not conscious of audio frequencies, although it can handle a frequency band as wide as 1,000,000 cycles. Mr. Sargrove concluded his paper by projecting a film, made by Polytechnic Films, demonstrating the action of the circuit, and illustrating why it is insensitive to parasitic impulses.

Variable Capacity

Mr. Ball followed, with a description of the apparatus employed. He showed a circuit in which the condenser microphone functioned as a variable capacity in the grid circuit, using a frequency of 17 mc/s. An intermediate valve doubles this frequency and increases the amplitude, feeding into the Phasitron valve.

A special microphone cable which could be used in lengths up to 150 ft. without loss of quality consisted of a twin cable made for RF transmission; at such frequencies the loss was only 3 db. per 100 ft. The limiting factor was the voltage drop in the filament current of 125 ma., which was carried in the same cable.

Norman Leevers concluded the symposium by demonstrating a microphone, having a miniature transmitter contained in a barrel the size of a No. 8 battery. He had made a number of tests with this microphone, and a reel of track was reproduced—incidentally on the newly installed GK21 projectors at Film House—to demonstrate the high quality attained.

Replying to A. Boston, Mr. Leevers stated that the system was capable of a flat response to 18 or 20 kc/s.; no equalising networks, electrical or mechanical, were necessary, the condenser microphone approaching the perfect aperiodic sound transducer.

Mr. Ball mentioned that the range of the radio transmission would rest rather with the GPO than with technical considerations; radiated power of about $\frac{1}{4}$ watt might be needed, which should be easily possible with deaf-aid batteries. Referring to the problematic grant of a licence, R. H. Cricks mentioned that several car hire firms had been granted transmitting licences.

Sound Experts in Conference

A SUCCESSFUL conference and exhibition has been organised by the British Sound Recording Association in London.

At the annual general meeting the officers, R. W. Lowden (hon. secretary), D. W. Aldous (hon. technical secretary and editor), L. R. H. Walker (hon. treasurer), were re-elected. The technical conference opened with an address of welcome to members and guests by the retiring president, Dr. L. E. C. Hughes, followed by a paper on some aspects of disc recording and reproduction by R. W. Lowden, of the Royal Aircraft Establishment, Camberley, hon. secretary of the Association.

Needle Dimensions

Emphasising that the production of a gramophone record is a scientific job of the first magnitude, Lowden went on to discuss the importance of the dimensions and shape of recording and reproducing styli, and with the aid of remarkable photo-micrographs, contributed by Cecil Watts, of the MSS Recording Co., showed plainly the inability of non-metallic needles to trace high-frequency wave forms on discs after slight wear and the ensuing damage to the record grooves.

A demonstration of the aural effects of various upper frequency cut-offs, using selected Decca "ffrr" and HMV "transient true" test records, reproduced over a high-quality channel, supplied by P. J. Walker, of the Acoustical Manufacturing Co., concluded this part of the conference.

In the evening the annual dinner was the main function, attended by over 150 people. Among the personalities present were R. H. Cricks, of the British Kinematograph Society, and Wynford Vaughan-Thomas, of the BBC.

W. S. Barrell, of EMI, president-elect, later introduced the second session, which was devoted to magnetic recording and reproduction. A paper was given by E. B. Angold, of Thermionic Products, in which the relative merits of wire and tape magnetic recording were discussed, followed by a demonstration, prepared by Mr. Appleby, of that company, of the Brush Soundmirror tape machines, portable and standard models, the Brush and Webster wire units, and the Mail-a-Voice magnetic disc recorder, which last equipment provides about three minutes' speech recording on a paper disc that can be folded and sent through the post in an envelope.

Film Recording

M. J. L. Pulling, superintendent engineer of recording, BBC, vice-president, took the chair at the closing session of the conference dealing with sound-on-film recording and reproduction. This was opened with a lucid exposition of the principles and apparatus used in sound-film recording by Mr. Boston, of British Acoustic Films, who illustrated his remarks with the early G-B film, "How Talkies Talk." Later in his lecture Boston covered some of the special problems of recording for 16-mm. release prints.

A private exhibition of the latest sound recording and reproducing equipment, held in the gallery during the run of the conference, was visited by hundreds of members and visitors. Among those taking part were Simon Sound Service (showing its new CDR 48A disc recorder), Birmingham Sound Reproducers (disc units), MSS Recording Co.'s range of recording products, the "Wirek" magnetic recorder contributing to the total of 16 exhibitors.

Miniature Crane Makes Début at Shepperton

A new miniature camera crane, mounted on a dolly, is being used for the first time at Shepperton studios by the Herbert Wilcox unit making "Elizabeth of Ladymead."

Made by Shepperton technicians, the dolly-crane gives a 9 ft. 6 in. lift and outward swing. It is strong enough to carry a Technicolor camera—adjustments of counterweighting are made for the particular load.

It is intended to make the dolly and crane mechanically operated—a powerful electric motor is to be installed at the rear.

AROUND THE STUDIOS Late News

Gainsborough Books Floor Dates for Seven Months

ANOTHER COLOUR SUBJECT FOR THE "BUSH"

GAINSBOROUGH has allocated floor dates at Shepherd's Bush and Islington studios up to the middle of January next year. A total of 12 film titles are involved —not including "Christopher Columbus," the present picture at the Bush, and "It's Not Cricket," on final locations.

As soon as studio work finished on "It's Not Cricket," the Basil Radford-Naunton Wayne comedy, all stages at Shepherd's Bush were handed over to "Christopher Columbus." This film will continue to have all space facilities until it finishes shooting on August 13.

Then comes the studios' summer break. Work will be resumed with "A Boy, a Girl, and a Bike" —now on location in Yorkshire— which takes up floor space at Shepherd's Bush on August 30. The shooting schedule lasts until October 15.

With "A Boy, a Girl, and a Bike" still on the floors, "Becher's Brook" overlaps at the Bush on September 13. This is to be a romantic story based on the Grand National, and it is possible that Patricia Roc will star. Location work for this picture is due to start on July 5

Next on the list for the Bush is "Hiccough Girl"—to be re-titled shortly—which starts on October 18. A Somerset Maugham story, "Sanatorium," follows on October 25, "So Long at the Fair" on December 1, and a Technicolor production, "Reluctant Widow," on January 3.

Over at Islington, the two Huggett family films—"Vote for Huggett" and "Trek"—take up accommodation until November 5, then comes "Marriage Bureau" on November 8. "Wide Guy" takes the Islington floor on January 17.

Meanwhile, "Turning Wheels" and "Diggers Republic" go into production in Africa.

KORDA TO START "DOLWYN" JULY 1

SIR ALEXANDER KORDA'S new production, "The Last Days of Dolwyn," takes the floor at Isleworth on the first of next month. It is an Anatole de Grunwald production, with Teddy Baird as associate producer.

Emlyn Williams is both star and director for the film. Edith Evans is cast in the female lead.

The Archers' production, "The Small Back Room," at present occupying the floor at Isleworth, will be clear of the studio within the next few days.

As yet there are no definite plans for Korda's Shepperton studios when Herbert Wilcox winds up filming on "Elizabeth of Ladymead."

"FOR THEM THAT TRESPASS" UNIT LIST

CAMERAS are turning on the new Associated British picture, "For Them That Trespass." First location scenes in Battersea have been shot with Victor Skutezky producing and Cavalcanti directing. Studio work starts at Welwyn on June 28.

In the meanwhile here is the unit list:—

Executive producer, Warwick Ward; producer, Victor Skutezky; director, Cavalcanti; author of story, Ernest Raymond; adaptation, J. Lee Thompson; dialogue, William Douglas Home; casting director, Robert Lennard; production manager, William A. Whittaker; director of photography, Derick Williams; production designer, Peter Proud; art director, Arthur Lawson; editor, Marjorie Saunders; first assistant director, Pat Kelly; second assistant director, Gus Agosti; third assistant, Geoffrey Hellman; camera operator, Val Stewart; focus, Chic MacNaughton; continuity, Joan Wyatt; assistant continuity, Thelma Orr; sound mixer, Stan Jolly; sound camera, Jimmy Davie; sound boom, Owen Mundin; sound camera maintenance, Tommy Davies; clappers, Mick Cohen; wardrobe supervisor, Dorothy Sinclair; wardrobe master, Bill Smith; make-up, Robert Clark; assistant make-up, Eric Aylott; hair stylist, Frank Cross; assistant editor, Mary Bond; stills, Charles Read; master carpenter, Spanner Barnes; master plasterer, Eddy Tanner; master painter, Harold Glenister; floor electrician, Wally Thompson; property master, Arthur Howe; unit publicity director, Leslie Frewin; floor Press representative, Ray Cunningham; specialist writer, Ethel Fisher; publicity Press photographer, John Taylor.

TELLING THE STORY

A new idea in story departments has been started by Susan Dalison, until recently European story editor of Columbia, and Ruth Feiner, author of "Cat Across the Path" and other novels, some of them filmed.

They have formed Reporters, an organisation which reads new books and supplies 500-word synopses, plus comment and suggestion as to film suitability, to production companies.

Production units may find this a time and labour-saving investment, since it enables them to reduce, or dispense with altogether, their own story departments.

Some film companies pay for a specific request, others pay an overall fee to cover a number of stories in a fixed period.

Reporters also has on its staff a number of screen writers, available to provide treatments and screenplays.

POWER SUPPLY

Continued from page xxxvii

creasing proportion of ripple at the higher harmonics; unfortunately, if this were carried too far the variations between the voltages of the three phases might give rise to low-frequency ripple.

Mr. Stevens referred also to the excellent frequency response of the arc lamp, and recalled an occasion when an arc had been made to address him by name.

C. G. Hayes Hallett mentioned that former experiments had shown that when an arc changes in colour, due to changes in voltage, it soon recovers its original colour.

Dr. Hawkins stated that this applied equally to a mercury arc.

F. Bush suggested that voltmeters should be used on the floor to check arc voltage, but R. H. Cricks recalled that he had once designed a studio arc with provisions for plugging in a voltmeter, but the electricians had stated it was impossible to use one.

C. Hillyer suggested that it might provide too good an alibi for the cameraman.

G. Gunn referred to the risk to tungsten lamps by generating at a higher voltage to allow for voltage drops, and the author agreed that a voltage control was essential.

W. Bland said that the experiment of using lamps flashing in synchronism with the shutter had been tried in the States. He thought there might be possibilities in it for newsreel work to improve portability.

Harry Waxman objected because of the possibility of nervous exhaustion to artists and technicians caused by a flickering light.

FILM AS STAGE SET

Background used at the Metropole, Glasgow, by the Logan family in its song scene, "Glen Echo," was provided by a film privately produced by the family, which was screened by rear projection.

SUB-CONTRACTORS AND THE WORK THEY DID—continued

W. E. MOORE, LTD., 15-31, Poplar High Street, E.14, Acoustic screens, chain blocks and girder runners.

ERNEST F. MOY, LTD., 134, Bayham Street, Camden Town, N.W.1, Film numbering machine.

MULTIPLE INDUSTRIES, LTD., 4, Leysfield Road, Shepherd's Bush, W.12, Skypans, airdraulic stands.

NAGELES, 8-10, Broadwick Street, W.1, Hairdressing and make-up equipment.

NATION CASH REGISTER CO., LTD., 206-216, Marylebone Road, London, N.W.1, Adding machines.

NU-BILT STEEL EQUIPMENT, 25-7, Southampton Street, W.C.1, Desks and filing cabinets.

PATHE EQUIPMENT, LTD., 111, Wardour Street, London, W.1, Camera equipment, canteen equipment, carpets, curtains, underfelts, divans, easy chairs, hat and coat racks and tubular furniture.

PETROLEUM BOARD, Black Oils Dept., Shell Mex House, Strand, W.C.2, Storage tank.

PYRENE CO., LTD., Brentford, Middlesex, Fire extinguishers.

RCA PHOTOPHONE, LTD., 43, Berkeley Square, London, W.1, Recording.

SIEMENS BROS. AND CO., LTD., 38-9, Upper Thames Street, London, E.C.4, Switchboard.

SCAFFOLDING (GT. BRITAIN), LTD., 53, Plough Lane, S.W.17, Extension ladders.

SILENTBLOC, LTD., Victoria Gardens, Ladbroke Road, Notting Hill Gate, W.11, Anti-vibration moundings and oil shields.

SILVERTOWN LUBRICANTS, L T D., Minoco Wharf, West Silvertown, E.16, Tanks.

J. A. SINCLAIR AND CO., LTD., 3, Whitehall, S.W.1, Camera.

SINGER SEWING MACHINE CO., LTD., City Road, E.C.1, Sewing machine and equipment.

SPRECKLEY AND CO., LTD., 21, Phœnix Place, Calthorp Street, Gray's Inn Road, W.C.1, Office furniture.

STEPHENS AND CARTER, LTD., 731-761, Harrow Road, Willesden, N.W.10, Ladders, trestles and steps.

STREAM LINE FILTERS, Ingate Place, S.W.8, Filter plant.

VARILECTRIC, LTD., 51-3, St. Bartholomew Close, London, E.C.1, Make-up fittings.

W. VINTEN, LTD., North Circular Road, N.W.2, Pathfinder, camera cranes and heavy-duty trucks.

WARNER BROS., Teddington, Camera equipment.

WEST CENTRAL ENG. SUPPLY CO., Kenton Street, Russell Square, W.C.1, Grinding machines and polishing spindles.

SUPPLEMENT TO KINEMATOGRAPH WEEKLY

Studio review

PUBLISHED MONTHLY • FEBRUARY 1949

"I ALWAYS THOUGHT THE NEW QUOTA WAS TOO HIGH"—Viscount Swinton

Former President of B of T Talks on the Crisis to the "Kine."

VISCOUNT SWINTON, who, as Philip Cunliffe-Lister, was President of the Board of Trade when the first Films Act was passed in 1928 to protect British production, told the KINE. this week: "I always thought the new quota was too high and that is generally agreed now in the light of recent developments."

He said that the most important thing to ease the present production slump was to concentrate on the overall reduction of production costs. He was not prepared to suggest any concise method of solving the present crisis because he was now "more or less an outsider."

Lord Swinton has been taking an important part in the debates on the Government's Film Loans Bill in the Lords. His amendments, urging that loans should be made direct to independent producers on the strength of a reasonable amount of money being raised by the producer himself, were accepted in principle by Lord Lucas, for the Government, last week.

He told the KINE. that it would be difficult for him to suggest what Government action should now be taken until the results are known of the various Government film inquiries which are now being made.

"The way I handled the first Act," he said, "was to get the three sides of the industry together to tell them that they must restore the industry. I said, 'Can you put up a plan?' They said they could not; so I said, 'Well, here is my plan, now you must lick this into shape.' The main thing which any Board of Trade must do is to make sure that exhibitors and producers work closely with it."

Lord Swinton said that he expected the first quota Act to carry on not as a short-term but as a long-term policy to support British films.

"But," he said "it must always be a quota for good British films. It must never be an Act which gets the exhibitor into a position that he has to take junk. My original scheme was, when renters and exhibitors were different people, that the renters' quota should always be higher than that of the exhibitors'. So that the renters had every inducement to handle only good films because they would have to place a few which exhibitors were not under compulsion to show."

That was one good thing in favour of a renters' quota system.

Lord Swinton concluded with these words: "At the Board of Trade they must work with exhibitors and producers and never try to be arbiters of public taste—the public is a very, very good judge of what it wants to see."

What the Future Looks Like

THE KINE., in keeping its finger on the pulse of the studios, presents this on-the-spot check-up of immediate and future film-making plans.

Tone of observations made by producers suggests that there is little likelihood of any major disruption of their forthcoming schedules. Some—and the ranks of independents provided a large number—were of the opinion that the crisis is only temporary and that a swing to full production can, and might, take its place.

But the KINE. wanted facts, not opinions. It wanted a factual barometer reading to put before executives who control the future of the production industry and the thousands of men and women—in work and out—who rely on their decisions.

The survey, coupled with the current production chart on page 4, points no rosy picture of studio activity today. But, studied dispassionately, it provides a degree for hope tomorrow.

As far as can be ascertained, then, this is what will be made and where in the immediate months to come.

ASSOCIATED BRITISH starts its new programme of 12 films—full details, as reported in last week's KINE., are being revealed this evening—with "No Place for Jennifer" at Welwyn studios. Henry Cann is directing for Associated British-Pathé release. Starting date has been fixed for March 7.

KORDA GROUP has four pictures ready for shooting. The first will be the British version of the Austrian film success, "The Angel and the Trumpet," at Isleworth on March 14. Anthony Bushell is to direct, with Eileen Herlie starring.

National studios may be reprieved from closure. Negotiations are in hand for Robert Donat's "The Cure for Love"—in which he will star with Renee Asherson—to start there early in April. It is a film version of the stage successes by Walter Greenwood.

As reported in last week's KINE., the Archers' "Gone to Earth"—Technicolor subject with David Farrar and Jennifer Jones teamed—is a "possible" to take the place of Carol Reed's "The Third Man" when it clears the stages at Shepperton. Another subject under consideration for this space is the Launder-Gilliatt picture, "State Secret."

RANK GROUP'S immediate plans are focused on five films: "The Chiltern Hundreds" (Cecil Parker starring) and John Mills' "Rocking Horse Winner" at Denham, and "Madeleine" (Ann Todd), "The Golden Salamander" (Neame Production's first, now on location), and "Poet's Pub," Aquila's fourth "independent-frame" subject at Pinewood.

GAINSBOROUGH, with "Diamond City" occupying stages at Denham and "Little Lambs Eat Ivy" scheduled for an early start at Shepherd's Bush, has 10 titles lined up as fixtures. They are:—"Boys in Brown." "The Astonished Heart," "Three's Company," "Mantilla," "Man Proposes," "The Huggetts' Christmas Party," "So Long at the Fair," "Safe Deposit," "Lucia," "The Big Smoke."

EALING has a film lined up to take its place before the cameras immediately "Train of Events" finishes. The title is "The Lark" and Charles Friend will direct with Leslie Norman as associate

Continued on page 3

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What the Future Looks Like

Continued from page 1

producer. Starting date is March 18.

CONDOR FILMS has scheduled for early production at Nettlefold a "Journey's End" type of war subject, "All This is Ended," which will have an all-male cast. The original play, by Jack Alldridge, was first produced in Naples and later by Basil Dean at St. James's Theatre.

Richard Grey will probably direct the film version, with Lord Rendlesham producing.

BOULTING BROTHERS (Charter Films) are preparing two stories, but no definite studio arrangements are fixed.

20TH CENTURY-FOX has "The Black Rose" on the books for Shepperton by April. Tyrone Power will star.

PILGRIM PICTURES unit, under producer/director/star Bernard Miles, is to spend three months in Gloucestershire for locations on "Chance of a Lifetime"

EXCLUSIVE'S programme for Cookham Dean, as outlined in the KINE. of February 10—five versions of BBC features—stands. Current film, "P.C.49," will be followed on April 4 with "Meet the Rev," and the programme is due to proceed with only a break for holidays until November.

M-G-M BRITISH is thinking in terms of a May start for the sequel to "Mrs. Miniver" (Story KINE., February 10).

VICTORIA FILMS' line-up of three subjects is scheduled for non-stop production starting at the end of April. Opening picture is "Honeymoon Deferred," which calls for six weeks' location in Italy. British studio work will be at one of the Thames-side plants.

CONCANEN PRODUCTIONS—the Derrick de Marney company—is preparing "She Shall Have Murder" for midsummer start. Rosalind John and Derrick will co-star.

JOHN ARGYLE will probably go to Merton Park studios with his unit for "The Girl Who Couldn't Quite," due to start next month. Floor work will be spread over six weeks and location work in the Isle of Wight will take three weeks.

A cast of 10 featured artists is being assembled. Norman Lee is to direct.

Present plans are for the second in Argyle's famous trials series, "The Case of Mrs. Maybrick," to follow immediately before cameras.

CONSTELLATION FILMS is in advanced preparatory stages with two subjects. Anthony Havelock Allan has selected "The Chord," an original story by Michaed Pertwee, for production in the near future, to be followed by "The Old Foolishness," from the play by Paul Vincent Carroll.

ADVANCE FILMS is scheduling five pictures to be made over the next six months for Adelphi release. The programme started yesterday (Wednesday) with "I Killed John Hartley," starring Diana Napier and John Bentley. A unit under director Frank Richardson is on location at a castle near Coventry.

Southall studios will probably be the venue for a Hal Monty subject which follows "Skimpy in the Navy." Robert Jordan Hill will direct Ben Wrigley in "High Jinks In Mayfair," and others in the line-up are "Potifer's Wife" and "The Minstrel Boy," a story of Tom O'Moore to be made in Ireland.

RENOWN'S 1949 line-up of medium budget pictures opens at Nettlefold studios on February 28 with "Old Mother Riley's New Look." John Harlow is directing this Harry Reynolds production.

EDWARD DRYHURST is going ahead with plans to make "The Romantic age," with Edmond Greville directing. It was originally scheduled for Teddington, and later named as a "possible" for Welwyn, but revised plans rule out both of these studios.

Field-Marshal Sir William Slim, the CIGS, is greeted on arrival at Elstree Studios by Sir Philip Warter, chairman of Associated British, and associate producer Alexander Boyd. The field-marshal made a detailed tour of the studios and was introduced to director, stars and leading players in THE HASTY HEART

On night location for P.C.49, one of five BBC features which Exclusive is adapting for the screen and shooting at Cookham Dean house-studio. John Penrose, feature player; Cedric Williams, lighting; Tom Money, props; Moray Grant, operator; Neil Binnie, focus; Michael Carreras, production staff; Renee Glynne, continuity; Jimmy Sangster, 2nd assistant; Leon Bijou, 1st assistant; Godfrey Grayson, director; Tony Hinds, production; Phil Leakey, make-up

DENHAM RECONSTRUCTING FOR "INDEPENDENT-FRAME" EXTENSION

RECONSTRUCTION is to start shortly, converting the large sound stages six and seven at Denham to "independent-frame" production centres. By next autumn, the KINE. was told this week by Gainsborough executive producer Sydney Box, these stages will be in use by Aquila, the "independent-frame" pioneer unit. Aquila will be associated with Two Cities.

Sydney Box meanwhile is taking over the "independent-frame" stages at Pinewood and the whole Rank Organisation gears for large-scale production by this new labour time-saving method.

Aquila started "Poet's Pub" at Pinewood this week. When this is completed—in April—Box will start his first "independent-frame" group for Gainsborough—"Boys in Brown," "The Astonished Heart," "Three's Company," "Mantilla," and "Man Proposes."

At the same time he plans to go ahead with six features for the Gainsborough Shepherd's Bush summer-autumn programme. These will be "Little Lambs Eat Ivy," "The Huggetts' Christmas Party," "So Long at the Fair," "Safe Deposit," "Lucia," and "The Big Smoke."

Both "Mantilla" and "Three's Company" have been on Sydney Box's schedule for several months, before the producer was assigned to "independent-frame" production methods.

"Chiltern Hundreds" Starts at Denham

"The Chiltern Hundreds," adaptation of the stage success by George H. Brown, has gone into production for Two Cities at Denham.

John Paddy Carstairs is directing and the cast includes Lana Morris, Cecil Parker, A. E. Matthews and Marjorie Fielding.

De Grunwald's Next at Teddington

ANATOLE de GRUNWALD is expected to start his next subject at Teddington early in March. When he reopened the studios with "Now Barabbas" on January 3—the plant had been dark for some months—he aimed to make a series of pictures on a non-stop schedule.

Anthony Asquith will direct the new film which, as revealed in the KINE. of February 3, is being made in conjunction with Arthur Kelly, vice-president of United Artists. "Another World" is the title and Celia Johnson will star.

Josef Somlo is returning from the U.S aboard the *Queen Mary*.

David Prince was scheduled to fly from New York over the week-end for London.

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STUDIO SETPIECES

. . . CYRIL Foster Kemp, assistant to Alfred Hitchcock on "Under Capricorn," is making preliminary arrangements for the filming of a motor-racing story feature. It will be called "Grand Prix" and will recall the history of British efforts in the sport. For the last three months, Kemp has been interviewing motor-racing aces and studying every aspect of the technique.

* * *

. . . The search for a twelve-year-old Lancashire lad to play the part of "Our Claude" in Robert Donat's new film, "The Cure for Love," may be ended on February 26. "Finalists" from a thousand applicants for the part have been selected for an audition in Manchester. Donat will personally judge the performance of each boy and make his final selection. The film starts shooting early in April.

* * *

. . . Grand Old Lady of the Viennese stage, Hedwig Bliebtreu, flew over from Vienna specially to play the part of the keeper of a lodging house in Carol Reed's "The Third Man," in production at Shepperton.

* * *

. . . Plans for filming all day on Sunday of last week at Euston Station for Ealing's "Train of Events" had to be cancelled through the sudden illness of Jack Warner, who fell victim on Friday with influenza. Filming at the studios had to be rearranged. It was the second hold-up on "Train of Events." Ballerina Irina Baronova returned to work after a a week's absence through bronchitis. Production, however, is now in final stages on this four-in-one story.

* * *

. . . Gainsboroughs comedy, "Traveller's Joy," screen version of the stage play, has been completed in 32½ days. This is half a day inside schedule, despite the postponement of production for a week, owing to John McCallum's attack of jaundice. The completion of the film in record time was particularly gratifying to Ralph Thomas, whose two previous directorial assignments for Gainsborough — both comedies — also beat the schedule.

* * *

. . . Pamela Stirling, young Comedie Francaise star, who plays Paul Dupuis's sister Felicite in Two Cities' romantic drama "Madness of the Heart," at Denham, made a hurried journey to Totnes on Friday at the close of filming to appear in her husband Gaston Richer's, play "Les Precieuses Ridicules." The company, "La Troupe Francaise," is touring Britain with plays in French.

* * *

. . . Producer/director Stuart Legg's Crown Film Unit, making the "World in Action" series for COI, interviewed Frank Whittle, jet engine pioneer, for a sequence in the latest issue.

* * *

. . . Carol Reed has engaged William Hemming as adviser on police matters. Bill Hemming was a CID man who got tired of waiting for promotion and decided to read for the Bar—he was called to the Bar at Lincoln's Inn last week.

FEATURE PRODUCTION CHART

Studio & Subject.	Director.	Producer & Renter.	Progress.
COOKHAM DEAN—Marlowe 873			
"Adventures of P.C. 49"	Godfrey Grayson	Exclusive	3 weeks
DENHAM—Denham 2345			
"Madness of the Heart"	Charles Bennett	Richard Wainwright: GFD	13 weeks
"Diamond City"	David McDonald	Gainsborough: GFD	7 weeks
"Chiltern Hundreds"	John Paddy Carstairs	Two Cities: GFD	1st week
EALING—Ealing 6761-72			
"Train of Events"	Basil Deardon Charles Chrichton Sydney Cole	Michael Balcon: GFD	6 weeks
ELSTREE (ABPC)—Elstree 1600			
"The Hasty Heart"	Vincent Sherman	ABPC: Warner	10 weeks
NETTLEFOLD—Walton-on-Thames 2414-7			
"Old Mother Riley's New Look"	John Harlow	Harry Reynolds: Renown	Starts Feb. 28
PINEWOOD—Iver 700			
"Dear Mr. Prohack"	Thornton Freeland	Ian Dalrymple: Wessex Production: GFD	13 weeks
"Poet's Pub"	Fredrick Wilson	Aquila: GFD	Starts Feb. 28
SHEPHERD'S BUSH—Shepherd's Bush 1210			
"Don't Ever Leave Me"	Arthur Crabtree	Gainsborough: GFD	9 weeks
SHEPPERTON—Chertsey 2211			
"The Third Man" (from Isleworth)	Carol Reed	London Films: British Lion	9 weeks
VIKING—Western 2516			
"Melody Club"	Bob Baker Monty Berman	Tempean: Eros	3 weeks

Awaiting Trade Show

"Adam and Evelyne" (Two Cities: GFD), "Adventures of Jane, The" (Keystone: Eros), "And Come Out Fighting" (Concanen: Eros), "Boy, a Girl and a Bike, A" (Gainsborough: GFD), "Cardboard Cavalier" (Two Cities: GFD), "Cockpit," "Christopher Columbus" (Gainsborough: GFD), "Conspirator" (M-G-M), "Dick Barton and the Silent Plague" (Hammer-Exclusive), "Dr. Leroy's Secret" (Ambassador), "Edward My Son" (M-G-M: British), "Exclusive Pimpernel, The" (Archers: British Lion), "For Them That Trespass" (ABPC: AB-Pathe), "Helter Skelter" (Gainsborough: GFD), "Huggetts Abroad, The," "I Want to Get Married" (Betty Box: GFD), "It's Not Cricket" (Gainsborough: GFD), "Kind Hearts and Coronets" (Ealing: GFD), "Last Days of Dolwyn, The" (Korda: British Lion), "Man on the Run" (Associated British), "Maytime in Mayfair" (British Lion), "Mr. Jolly's Journey" (John Baxter), "Murder at the Windmill" (Angel Prods.: Grand National), "Now Barabbas" (International Screen Plays: Warner), "Obsession" (Independent Sovereign: GFD), "One Good Turn" (Ambassador), "Paper Orchid" (Ganesh: Columbia), "Passport to Pimlico" (Ealing: GFD), "Perfect Woman, The" (George and Alfred Black), "Pilgrim's Way, The" (Baze: Exclusive), "Private Angelo" (Pilgrim), "Probation" (Data), "Queen of Spades" (ABPC: AB-Pathe), "Saints and Sinners" (Arliss: British Lion), "Stop Press Girl" (Aquila: GFD), "Traveller's Joy" (Gainsborough: GFD), "Trials of Charley Peace" (John Argyle), "Trottie True" (Two Cities: GFD), "Under Capricorn" (Transatlantic: Warner), "Vengeance is Mine" (Cullimore-Arbeid: Eros), "Whisky Galore" (Ealing: GFD).

No Production at—

Brighton, Bushey, Carlton Hill, Gate, Highbury, Isleworth, Islington, Manchester, Marylebone, M-G-M British, National, Riverside, Southall, Teddington, Twickenham, Welwyn, Windsor.

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UNESCO Selected Foreign Students who are Being Given Six Months' Skilled Tuition at a Cost to the BFPA of £400 a Head

THERE are six technicians working in British studios this week who cannot be dismissed as "redundant." They are the subject of today's *good* news production story.

About a year ago the British Film Producers' Association decided to sponsor ten students for a period of training in film production in this country. The arrangements were made through and at the request of UNESCO, of which Sir Henry French, director-general of the BFPA, is chairman of the Mass Communications section.

One Per Country

The students are being given six months' skilled tuition at a cost to the BFPA of £400 a head. UNESCO is selecting students, bringing no more than one from each country. H. Francis, BFPA personnel officer, has had the major job of placing the students with the various British production companies, while the British Council and the Ministry of Education have supervised their maintenance and travelling arrangements.

So far, six students—from countries as far apart as China and Norway—are learning the British methods of picture making. Last week they went to BFPA headquarters to file a progress report and talk over with director-general Sir Henry French, H. Francis, and representatives of the British Council and Ministry of Education ways in which their training might be improved.

T. A. Svendsen has come from Denmark to study direction. Like all the students, he has had some experience of film making in his own country. His first reaction to British studios was that of being impressed by their size. Then he was equally impressed by the size of individual units working on pictures. He has been studying work on "The Hasty Heart" at the ABPC Elstree studios.

He comments: "In Denmark the director has to do many different things. But over here his job is more specialised and he concentrates only on what the actors do. You have, for example, not just a cameraman; but a lighting cameraman, an operator, a focus man and the clappers!"

China to Denham

Donald Doo has come from China to study production and general administration with the Rank Organisation at Denham.

E. van Moerkerken, from Holland, is working on camera lighting at the British-Lion Shepperton studios.

J. L. Cleinge, Belgium, is also in Britain to study direction. He has been on duty since September at the Shepherd's Bush studios. He came over with the ambition of finding out how British producers choose stories, evolve scenarios and prepare the final shooting script. And that's just the kind of thing he should have learnt thoroughly at a Sydney Box studio.

Nils Muller, the Norwegian, has been watching special effects work at British National during the recent Archer productions.

D. A. Wronecki, from the Centre Nationale de Cinematographie, France, has been studying direction at the British-Lion Shepperton studios.

Four to Come

These students will return home in the Spring. By then the final four will have arrived in Britain to take up their studies—from Italy, Greece, Poland and Czechoslovakia. The Greek—the BFPA staff has already nicknamed him Archie—is on military duties. There is some doubt about his arrival because latest reports indicate that he is fighting on the wrong side!

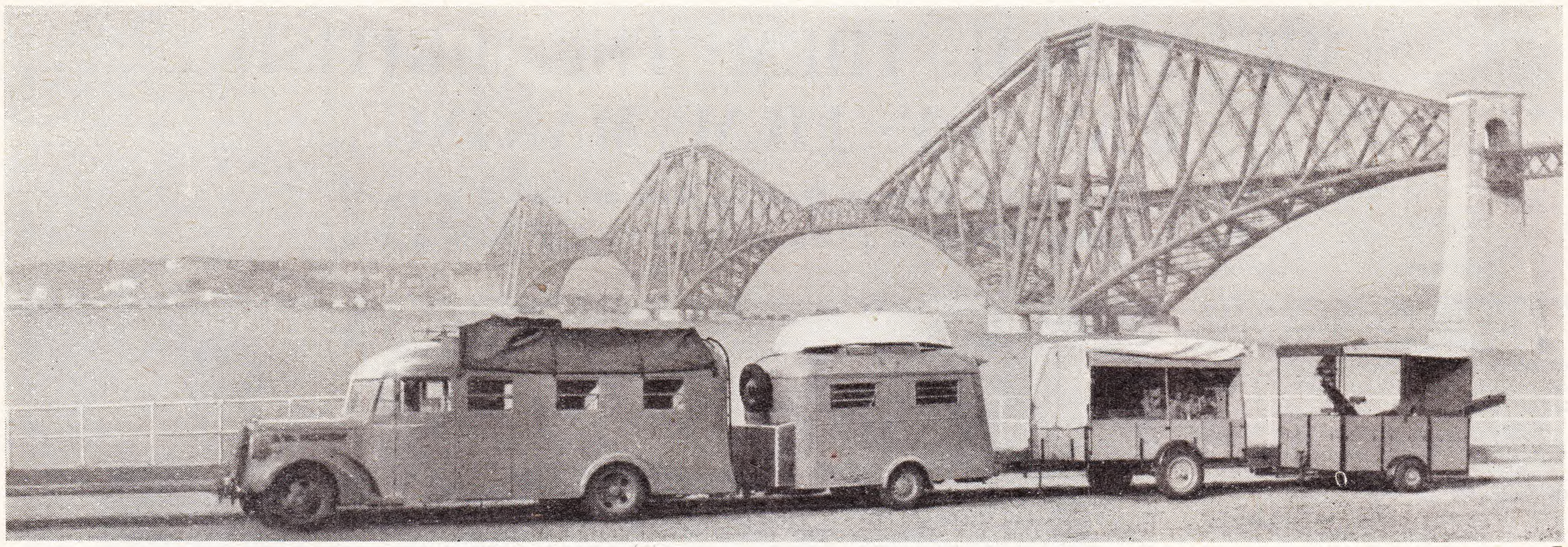
That is not intended to be ironical. It does reflect very graphically some of the real problems which have to be overcome in tackling a scheme such as this. Some countries have civil and "cold" wars. The British film industry is tackling its own particularly difficult post-war problems.

"Why teach our trade competitors the job when we are almost down for the count?" one may ask. Well, isn't that being typically British and, we believe, doing something practical to assure the peace of the world.

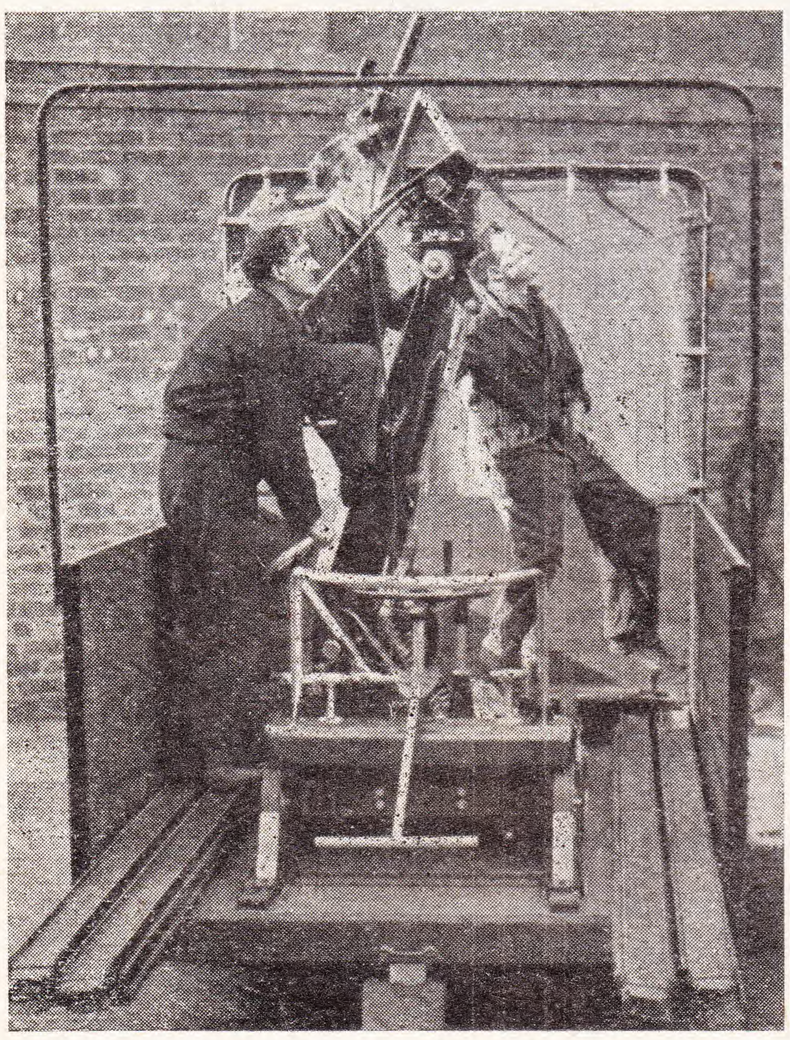
AN INTERNATIONAL ASSEMBLY

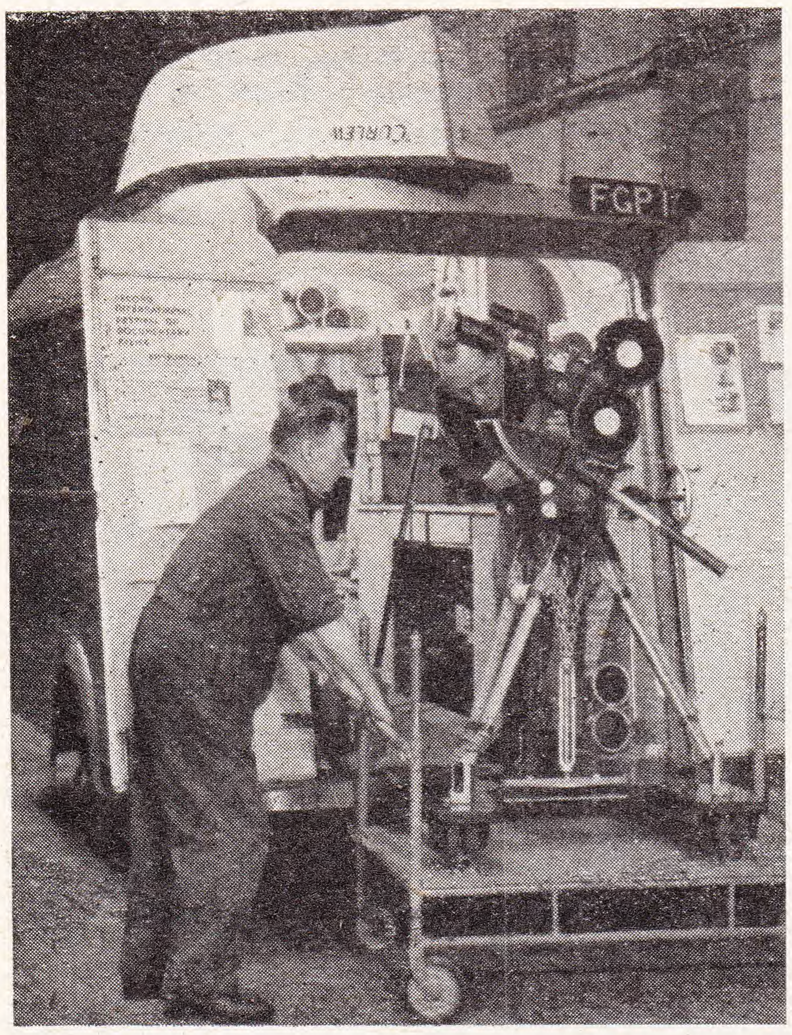
Exclusive "Kine." Pictures

The students at the British Film Producers' Association headquarters where they met director-general Sir Henry French and representatives of the British Council and Ministry of Education to discuss progress in their training. Top row: A. Thompson, UK National Commission for UNESCO; Jean L. Cleinge, Belgium; Sir Henry L. French, director-general, British Film Producers' Association; Daniel A. Wronecki, France; John Davison, The British Council. Second row: Nils Muller, Norway; Donald Doo, China; Emile van Moerkerken, Holland; Torben A. Svendsen, Denmark. Below: H. Francis, director of personnel, BFPA (second from the right) joins in an informal chat



CINE CARAVAN LABORATORY LIGHTING VELOCILATOR





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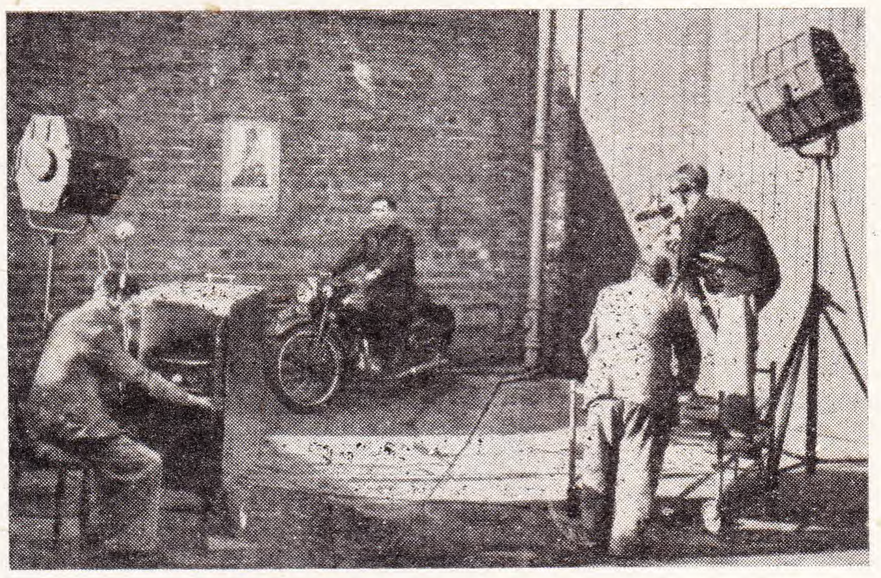


ROBIN HOOD FILM UNIT · MONOMARK BCM/FGP1, LONDON, W.C.1

Combined Picture and Sound Camera

THE OVERSEAS BUYER WHO FOUND THAT BRITAIN CAN MAKE IT

ON a mission to buy up-to-date studio equipment, J. Scott, technical director of the New Zealand Government Film Unit, came to Britain en route to the U.S, where he intended to seek the bulk of his requirements. The trip across the Atlantic was unnecessary, for he discovered that "Britain can make it"—comparable in efficiency and design to the best in the world.

Behind Mr. Scott's visit is an interesting story of the development of an unconventional type of camera by Newall and British Acoustic engineers.

This and a Gaumont-Kalee standard 35-mm. recording channel, model "D" and "J" Bell and Howell-Gaumont printers and Acmade editing equipment were the items Mr. Scott ticked-off on his buying list.

The equipment was required for the Royal visit to the Antipodes—unhappily postponed—and Mr. Scott wanted a camera to record picture and sound simultaneously, in order to obtain close-ups of the King and Queen and accompanying sound.

Newall's standard 35-mm. was adapted for the purpose and fitted with a self-contained sound-head mounted at the rear of the mechanism chamber. The picture was the primary consideration, and as picture negatives are developed to a fairly low gamma, the variable density type of recording was selected.

The mechanism of the sound-head is of a simple design, the mechanical filter consisting of a solid flywheel and a pair of spring-connected jockey arms. Recording takes place on the drum mounted on the flywheel shaft. A flange on the recording drum guides the film and also serves to reduce side weave to a minimum.

In the lacing sequence the film is firstly located in the picture gate and engaged on the main sprocket. A loop is then passed through into the sound-head, threaded round the guide rollers and sprung rollers and finally engaged again on the top of the main sprocket.

No adjustments are necessary to line up the sound track, for the optical unit is held in the correct position in relationship to the sound drum by two dowels.

The recording lamp, with a filament specially designed for the job, is rated at 6 volts, 1 amp., and the cap is fitted with a pre-focus flange.

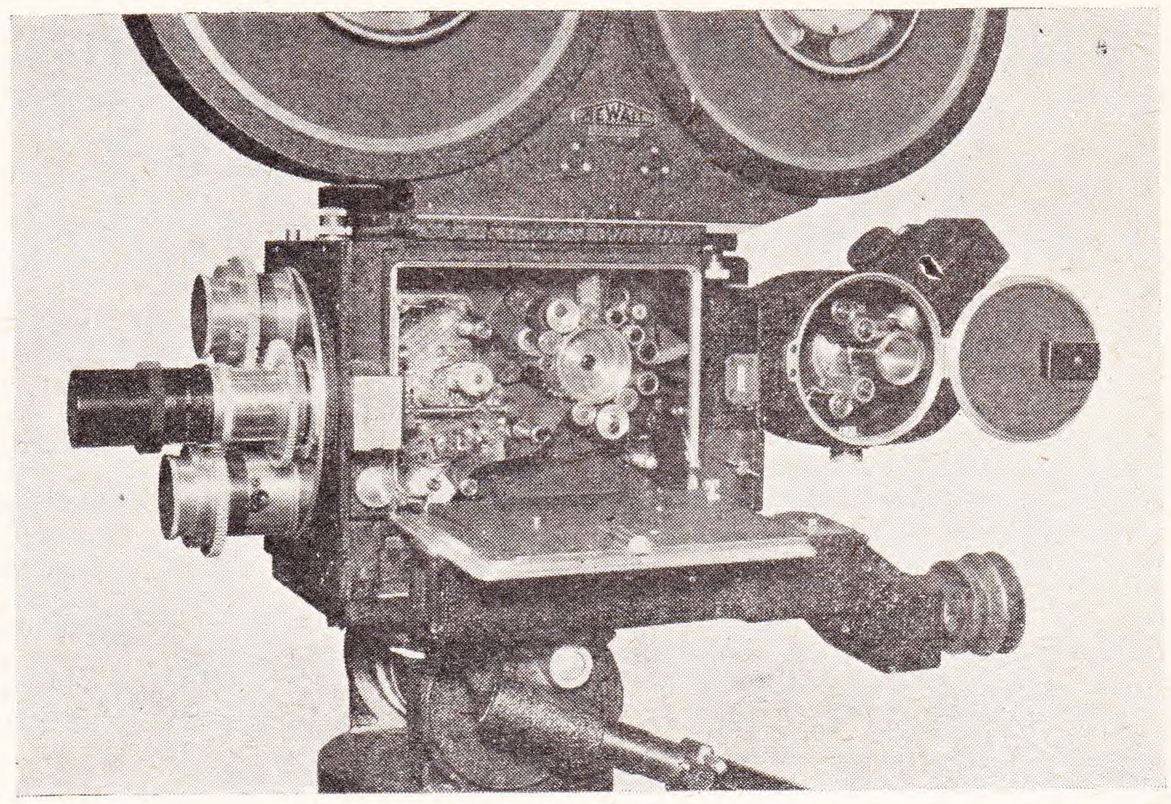
The optical system is quite simple, but relatively efficient. An image of the lamp filament is formed on the galvanometer mirror, the spherical surface of which reflects the image of the condenser aperture in the plane of the objective lens. The latter, in turn, forms a very much reduced image of the galvanometer mirror on the film.

The galvanometer has an impedance of 5 ohms plus 1.6 mH. It is fed from a source impedance of 100 ohms and requires approximately 30 mA RMS for full deflection. Resonance frequency lies between 7,000 and 8,000 cycles.

Overall frequency response, measured from a print, is flat within 2 db. up to 7,500 cycles. Grain noise—suppression is not employed—is in the region of 34 db. below full modulation.

The run-up time of the sound-head is approximately two seconds.

And, incidentally, the sound-head is detachable, so that the camera, mounted in a blimp, can be put into normal studio service.



The Gaumont-Kalee Combined Camera, designed to take pictures and sound on the same negative, simultaneously. The sound-head—employing variable density recording—is mounted at the rear of the mechanism chamber

ANNOUNCING

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CHANCE ON20 has all the transmission properties of CHANCE ON19, which it supersedes, and in addition it will withstand about 30 per cent greater thermal shock. CHANCE ON20 is now in production, and is being supplied against all outstanding orders for ON19. Full particulars will be announced shortly.

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THE SPEEDLAMP FOR STUDIO STILL PHOTOGRAPHY

By R. HOWARD CRICKS, F.R.P.S., F.B.K.S.

A NEW light source is quietly finding its way into the film studio—not ordinarily a source for the kine.-cameraman, but for the still photographer. It is the speedlamp or flash discharge lamp—an electronic device, quite different in principle and application from the flash-bulb so widely used by news photographers. It has been tried out by F. V. Hauser, of Denham and Pinewood, and is being used by F. Buckingham, of ABPC.

The speedlamp is virtually a gas discharge lamp, which for a very brief instant is supplied with an enormous current, in the region of 1,000 amps. The instantaneous light intensity is such as to dim normal studio lighting.

The high current is obtained by the discharge of a condenser. Inside the stand of the lamp is a bank of condensers, which, in the case of the Turner Speedlamp, total 200 mF. A step-up transformer in the power unit charges these condensers to a pressure of 2,000 volts. This voltage is applied directly to the tube, but is insufficient to fire it.

Firing is effected by means of a starting electrode, which consists simply of a turn of wire *outside* the tube. To this wire is applied a momentary pulse of 10,000 or 15,000 volts; the gas inside the tube is ionised, its resistance is lowered, and the arc is enabled to strike. Once the discharge has started the electrical resistance is so low that the condenser is emptied within a matter of micro-seconds.

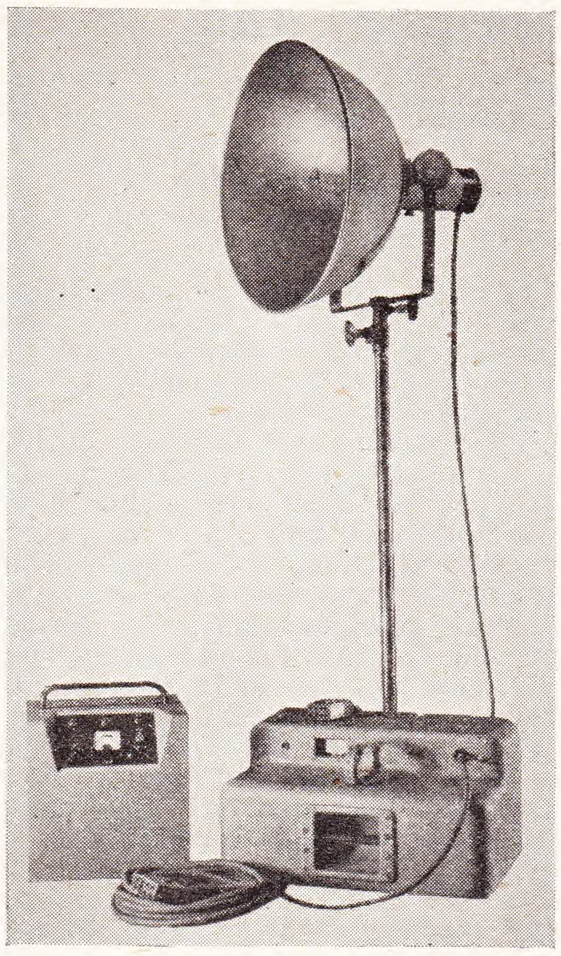
In use, one merely connects up to any AC point, switches on, and watches a needle creep across a scale unit until it reaches a mark. There it stops until a pressure of a switch fires the lamp, when the needle creeps up again, and in 12 or 15 seconds the tube is again ready to fire.

A portable model, completely independent of the mains, is also available. The power source in this case is a 4-volt accumulator, which provides a condenser voltage of 2,650 volts by means of a vibrator.

In terms of exposure it is stated that with modern film or plates, a subject 40 to 50 ft. from the lamp can be photographed at a lens aperture of *f*/8 or *f*/11. This, of course, is irrespective of the shutter opening, since the duration of the flash is only 1/8,000th or 1/10,000th second—much faster than the most rapid camera shutter.

There is a very sound argument in favour of using flash lamps for all still work: that the cost has been worked out at only 1¾d. per flash, as compared with the cost of running the studio lighting, possibly for a considerable period.

The speedlamp has also proved of value in another direction. The illusion of lightning has always been a difficult one to produce, because of the obvious necessity for a momentary flash of far greater intensity than the normal studio lighting. The flash of the speedlamp provides the answer, and was, in fact, used with success in "The Blue Lagoon."



The Turner Speedlamp outfit

PORTABLE DISC RECORDING

The Robinhood Film Unit

A NUMBER of 35-mm. and 16-mm. production units are finding useful applications for a compact, self-contained portable disc recording outfit—the Cine-vox C7.

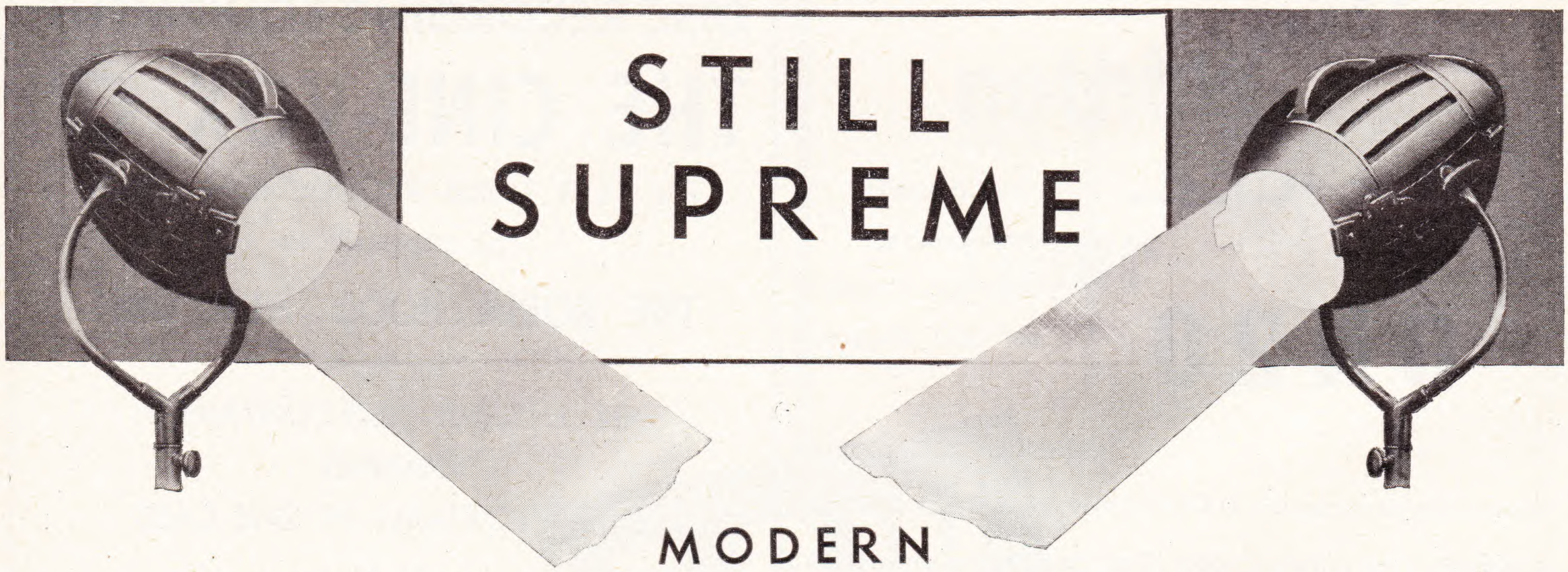
The standard model has a heavy cast turntable, driven by a self-starting synchronous motor; a choice of crystal or magnetic cutting head; built-in amplifier with modulation meter, and a pick-up and loudspeaker providing immediate playback facilities.

Turntable speed is regulated at 78 r.p.m., and cutting, at 96 grooves to the inch, is from the outer edge toward the centre of the disc.

The recording equipment can be supplied, if required, with a separate amplifier, or for use with any suitable existing amplifier.

A model recently supplied to the Robinhood Film Unit is mounted in a rubber-tyred "pram," together with accumulators, rotary convertor and cable links, for use on locations where mains supply is not readily available.

The equipment is marketed by Kine-Technic Services, a firm which has wide experience of sound installation work in film studios over the past 16 years.



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THE "KINE." PUTS THE

Focus on Finance

THOUSANDS of studio employees are out of work, a third of the studios are dark or working only at half pressure, and producers who want to make more films cannot do so because—they haven't the money. That's what this survey is all about—finance and films.

By V. J. BURTT

The "Kine.'s" City Editor

NO industry had a better chance at the end of the war than the British production industry. The Government was anxious to put British films on the world screens, and that Government opened the financial coffers to the extent of thirty million pounds by bringing down the interest rate and giving the industry considerable priority in the capital issues market.

Let me start off by nailing the lie about the City being unwilling to help. If thirty million pounds of new money in a year, with hundreds of thousands saved in interest, is unwillingness, then this industry can take a closer look at the financing methods operative elsewhere.

Associated British Picture Corporation, British and Dominion Films, British Lion Studios, Gaumont British, General Theatres, Granada Theatres, the Odeon Group, and others all dipped into the public purse.

Again, I assert, they had a grand opportunity. Money in the till; balance-sheets straightened out; and record box-office attendances, despite the post-war attractions of other entertainments.

In twelve months, from March, 1946, to March, 1947, the public, with the aid of the City machinery of issuing houses (Philip Hill prominent), put up nearly £30,000,000 of new money, £12,000,000 of which lightened the load of the banks and other supporters, of production and renting and exhibition. The other £18,000,000 was new money.

The annual production record for British studios is best known to the writers more directly connected with studio affairs than a City Editor, but financial executives in the City, briefed by people who are in direct contact with British film making, have been disturbed during the last three years by the way many producers have lavished their new funds in making pictures which, on a hard business basis, could only cover their costs or make a profit if they were assured of a good world market outlet. And producers went ahead on the assumption that they *might* find an overseas market for their pictures.

Eventually the J. Arthur Rank Organisation, which has been the spearhead of British post-war production drive, found it necessary to readjust its finance in such a way that Odeon shareholders were asked to take over the production company known as General Cinema Finance Corporation. We all remember the national Press controversy on this subject, which resulted in Mr. Rank calling a special meeting of his shareholders to explain in more detail the object of this move.

And the result? Odeon interim dividend has been cut in half. The G-B dividend has also been cut in half, and that group, too, has been tied up more closely with production. ABPC interim dividend has also been reduced.

This is what happened to the £30,000,000 put up by the City: based on present market valuations, no less than £12,000,000 has been lost.

ABPC 4½ per cent. pre-pref. shares issued

Continued on page 6

MARKET VALUATIONS AS AT	January, 1947, or issue price, if later.	March, 1949.	Loss.
Assoc. Brit. Picture Corp. 5s. Ord.	£12,100,000	£4,700,000	£7,400,000
,, ,, ,, 6% Pref.	3,225,000	2,100,000	1,125,000
Brit. & Dom. Films 12s. Ord.	2,565,199	1,251,317	1,313,882
,, ,, 5½% Pref.	2,275,000	1,450,000	825,000
Brit. Lion Films 1s. Ord.	1,406,350	563,040	843,310
,, ,, 7½% Pref.	180,394	122,202	58,192
Brit. Lion Studios 2s. Ord.	396,834	180,379	216,455
,, ,, 6% Pref.	175,240	104,470	70,770
Cap. & Prov. News 5s. Ord.	575,500	247,500	328,000
Gaumont Brit. 10s. Ord.	6,812,500	2,000,000	4,812,500
,, 5s. "A" Ord.	2,892,406	1,001,267	1,891,139
,, 5½% 1st Pref.	4,631,250	2,437,500	2,193,750
General, The, 6s. 8d. Prefd. Ord.	1,750,000	656,250	1,093,750
Humphries (G.) 5s.	1,350,000	975,000	375,000
Odeon, The, 5s. Ord.	9,469,910	3,787,964	5,681,946
,, 6% Pref.	4,052,250	2,268,750	1,783,500
Prov. Cin., The, 10% Cum. Pref.	4,150,000	2,000,000	2,150,000
,, 7½% "A" Pref.	170,000	130,000	40,000
,, 7½% "B" Pref.	1,005,000	630,000	375,000
P.C.T. Construction 7% Pref.	1,994,687	1,319,562	675,125
Shipman & King 5% 1st Pref.	600,000	510,000	90,000
Twentieth Cent. 5s. Ord.	90,000	18,000	72,000
,, 6% Pref.	141,000	66,000	75,000
United Entertainments 5s. Ord.	290,264	191,422	98,842
Grand Totals	**£60,023,784**	**£27,260,623**	**£32,763,161**

THIS WAS THE NEWS *and* HOW

THE last two years have been dismal ones for film shares on the Stock Exchange. Week by week industry developments and national news events have sent the prices tumbling from the peak they reached soon after the war to par, and sometimes below par level.

On these pages are set out some of the headline news of the past months, next to a

		Ass. BPC. 5/– Ord.	Brit. & Dom. 12/– Ord.
January 1947	14 studios (48 sound stages) were in production with 18 feature films simultaneously	30/3	20/3
January 16, 1947	CEA and BFPA publish Quota proposals, both attacking ABC group for its "Americanisation"	31/–	22/6
February 13, 1947	National fuel crisis. Laboratories close down	28/9	21/3
April 3, 1947	Board of Trade opposes a renters' quota in principle during Parliamentary debate	27/–	21/–
April 17, 1947	Nothing for film industry in the Budget	28/6	21/6
June 10, 1947	Five-day working week agreement signed by unions with BFPA	30/–	22/6
June 24, 1947	Hugh Dalton gives first indication to Commons of plan to restrict film dollars for America	25/3xd	22/6
July 2, 1947	Parliament agrees to give Treasury power to impose an import duty on American films	24/6	21/3
July 25, 1947	Arthur Rank said he was "not happy" about repercussions of a possible tax	21/9	19/6
August 6, 1947	300 per cent. ad valorem duty imposed on foreign film imports	20/–	17/6
August 8, 1947	MPAA bans film shipments to Britain	20/–	17/6
November 6, 1947	KINE. reports U.S. film chiefs "happy to make suggestions to British Government for new deal." Production slumps as a result of duty—six studios (14 sound stages) dark.	19/6	15/9
December 18, 1947	Sir Henry French returning from New York said there would be "no change" in tax situation. Parliament this week received Quota Bill draft.	19/–	18/6
March 11, 1948..	Eric Johnston in London for tax talks with British Government.	18/9	16/–
March 12, 1948..	Board of Trade and MPAA announce Anglo-American film agreement restricting American remittances to £4,250,000 to operate from June 14.	19/9	17/–
April 1, 1948	Quota Act becomes law	18/–	17/–
June 14, 1948	Harold Wilson announces 45 per cent. exhibitors' quota	17/6	15/–
June 22, 1948	Government Finance Corporation is announced to House of Commons ..	16/6	14/6
August 31, 1948	American companies impose unit booking system to operate from October 1	15/–	13/9
November 11, 1948	British Lion receives approximately £1 million loan from Government Corporation.	14/3	12/9
December 9, 1948	KINE. announces 63 first features will have been made in 1948 ..	14/3	13/–
December 23, 1948	Large screen television demonstrated by Rank Organisation	13/3	12/3
February 17, 1949	Only seven feature films in production with 18 studios (40 sound stages) dark. 2,000 people unemployed.	12/9	10/3
March 3, 1949	Shepherd's Bush to close down, says Rank	12/3	9/3
March 9, 1949	Odeon and G-B cut interim dividends	11/9	10/–
March 24, 1949	Quota fixed at 40 per cent. by a 5 per cent. reduction	11/8	10/5

IT AFFECTED THE SHARE MARKET

tabulation of share prices for ten of the more important film stocks quoted on the Exchange. The writer does not claim that every change in share values has been brought about by the news developments; but the shares have shown a steady decline as week by week economic conditions within the industry have worsened.

Brit. Lion Films 1/– Ord.	Brit. Lion Studios 2/– Ord.	C & P News 5/– Ord.	Gaumont Brit. 10/– Ord.	Gen. Thrs. 6/8 Pref.	Odeon Thrs. 5/– Ord.	20th Century 5/– Ord.	United Ent. 5/– Ord.
6/3	5/6	19/3	27/3	28/–	48/6	3/9	11/9
6/1½	5/6	18/6	27/6	30/–	50/–	4/–	11/3
5/9	5/–	18/–	27/–	30/–	48/9	3/9	11/3
6/–	5/–	16/3	25/9	27/6	47/–	3/3	11/–
5/10½	5/–	16/–	26/–	27/6	46/6	4/–	11/–
6/10½	5/–	16/9	25/6	27/6	47/–	4/–	10/9
7/–	5/–	16/6	24/9	27/–	45/6	3/9	11/–
6/9	5/–	16/6	23/9	26/6	44/3	3/9	11/–
6/4½	5/6	15/3	21/9	24/9	38/9	3/3	11/–
5/6	5/–	14/–	20/–	23/9	36/3	3/–	10/3
5/3	5/–	13/–	19/–	23/–	36/3	3/3	9/–
5/–	5/–	10/6	17/–	20/–	32/6	2/6	8/–
5/1½	5/–	11/–	17/6	18/9	40/–	2/6	7/9
4/9	4/6	10/–	16/–	17/–	32/6	2/3	7/3
5/3	5/–	10/1½	17/3	17/6	36/3	2/6	7/6
5/1½	4/6	10/–	17/–	17/6	40/–	2/1½	7/6
5/4½	4/6	9/6	15/–	16/6	33/9	2/–	7/6
4/6	5/–	9/3	14/9	16/3	33/–	1/6	7/7
4/6	4/9	9/–	12/9	13/–	28/9	1/3	8/1½
4/6	4/6	8/6	11/9	13/9	28/9	1/3	8/1½
4/6	4/6	10/9	11/–	13/9	32/6	1/3	7/9
4/4½	4/3	10/3	11/–	12/–	32/6	1/3	7/9
3/–	2/10½	9/1½	9/6	12/6	23/9	1/–	8/6
2/9	3/–	9/–	9/6	11/6	21/3	1/–	8/3
2/6	2/9	8/6	8/–	11/3	20/–	0/9	8/3
2/9	2/6	8/3	8/6	10/6	19/4	0/9	8/–

FOCUS ON FINANCE

Continued from page 3

at 22s. 6d. each—5,000,000 of them—are now 17s. each, a fall of over £1,250,000.

British and Dominion Films issued £2,000,000 of 5½ per cent. preference shares at 20s. each. They are now 14s., a drop of £600,000; also 1,090,000 of 12s. ordinary at 20s. each (now 10s.), a 50 per cent. loss of over £500,000.

British Lion Studios issued £500,000 of 4 per cent. debentures at £100 per cent. These are now £81—nearly £100,000 down; £500,000 of 5 per cent. Notes, also issued at par, now stand at £70—£150,000 pared off.

Granada Theatres offered £800,000 4 per cent. preference shares at 20s. 6d. Present price is 17s. 6d.—a £100,000 loss.

Odeon Theatres issued £1,186,849 6 per cent. preference shares at 26s. each. These have dropped 9s. to 17s.—or over £500,000 on the issue price.

Odeon Associated issued £3,500,000 of 3¼ per cent. debentures at £100 per cent. Price is now £75, and investors have lost £875,000 of their capital. The same company also issued £1,250,000 of 4¼ per cent. preference shares at 21s. each. Present price is 13s., and the total fall is £450,000 on £1,262,500 put up.

Odeon Properties issued £3,500,000 of 3½ per cent. debenture at £98 per cent. These are now £83 and are worth less than £3,000,000 on the market. £1,000,000 of 4½ per cent. preference shares in the same company, issued at 21s. each, are now only 14s. and worth only £700,000.

These are only a selection of some of the issues made to the public.

By providing this extra capital the public more than doubled the industry's market resources. It was, therefore, entitled to see some good results. But not only has it lost £12,000,000 of this new money but another £32,763,161 on capital value since January, 1947, of other preference and ordinary shares, most of which were already held.

The table shows just how this loss has been apportioned.

The £12,000,000 of securities issued to the public and shareholders to replace bank loans and private loans have suffered in a similar manner.

There was nothing wrong in going to the City when the opportunity was there. Part of the loss is due to the subsequent rise in interest rates. The money received cleared the decks and provided fresh funds to make a new post-war start.

"Prestige" Mad

What is wrong is the subsequent failure of the industry to make the best use of the money. With money in the bank it seemed to lose its head. It went "prestige" mad. And it didn't altogether succeed.

By the operation of the Government's National Film Finance Corporation, which has an initial £5,000,000 with which it can put up much of the "end money" for new British production projects, the City is being tempted back to investment in British film making. The National Film Finance Corporation has already loaned British Lion Studios something like £1,000,000.

The National Provincial Bank, of course, has already £13,000,000 sunk in production activities by way of the overdraft of the J. Arthur Rank Organisation, and Eagle Star Insurance is another City house playing an important part in supporting the market, owning 123,466 ordinary and 76,102 6 per cent. preference shares of Odeon Theatres. Despite market reports, Eagle Star has not increased its holding during the last 12 months.

Producers are now getting down to the job of putting production on a more business-like basis. I have heard favourable comment in the City about the new ABPC plans for spending £2,000,000 on ten feature films during the next 12 months, with a guaranteed American distribution for a number of them.

The J. Arthur Rank Organisation has now put out streamlined production plans. These, too, seem to bear the hallmark of something better.

Money-Saving Move

The concentration at Denham and Pinewood under Sydney Box, George Archibald and Earl St. John should be a good money-saving move.

The Government, the National Provincial Bank (Odeon bankers), have probably played their part in bringing the more workmanlike Rank plan about. Whatever the cause it is a step in the right direction, as working in two studios only will mean a big reduction in overheads.

It is reasonable to assume that independent producers, who have proved their worth in the past, can look forward to increasing support from the City providing they produce constructive plans based on the amount of money they can reasonably expect to recoup and not the amount they would like to recover if there was a guaranteed world market. My advice is: "Forget the world market—that will come all in good time as the industry learns to flourish on a sound home economic policy."

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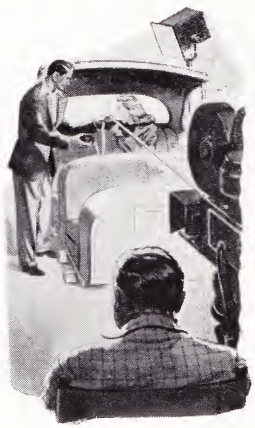

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OVER 2,000 STUDIO EMPLOYEES HAVE LOST THEIR JOBS

Facts and Figures on the Labour Situation Resulting From the Slump in Film Production

By PETER G. BAKER

HAROLD WILSON has faith in British film production. He is convinced that during the coming months producers, directors, carpenters, clapper-boys and office staff—in fact, everyone associated with film-making—will deliver sufficient pictures to satisfy the 1949-50 exhibitor feature quota of 40 per cent. When the President of the Board of Trade last week made an Order reducing the quota by only 5 per cent., in the face of strong CEA opposition backed by a recommendation from the Films Council that it should be reduced to 33⅓ per cent., he was giving British production a second chance.

Post-war production started off with high hopes and plenty of ready cash in the bank. By 1946 all Britain's available studio space was fully in use. Now only nine studios are in production with first-feature films. At the end of February, when production had slumped to the lowest level since pre-war, there were 18 studios idle, representing 40 sound stages of an approximate total 250,300 sq. ft. of space. Only seven first features were in active production, and 36 sound stages at 10 different studios were being used to make those.

Then, a week later, Sydney Box told his Gainsborough staff that he had been ordered to close down Shepherd's Bush.

In terms of individual hardship the KINE. during recent months has had a sad story to tell. Even today the industry as a whole has no real understanding of the way the slump has affected the thousands of people whose livelihood depends on film-making. Sweeping claims have been made by the unions about unemployment, while production offices have been reluctant to talk about the reasons why week after week they have been striking names off the employment roll and telling Smith, Jones or Brown that he is now "redundant."

Employment Conditions

This week the KINE. provides the first authoritative survey of the employment conditions. It has been checked in every case by the studios concerned and double-checked with the trade union employment bureaux.

During the last six months 2,142 studio employees have lost their jobs. That is 29 per cent. staff reduction all round. Some idea of the magnitude of the employment changes is conveyed in the tables below.

These figures, it must be emphasised, are not estimates but are based on returns from the studios themselves. They also tally well with those arrived at by the trade unions.

George H. Elvin, general secretary of the ACT, tells me that during the last twelve months 1,405 members have been dismissed from feature production jobs. The membership of the whole union, including shorts, documentary and BBC men, is about 7,500. Of the 1,405 dismissed, however, 999 were found new jobs by the employment bureau, but at March 14, 485 members were still classified as unemployed, and Elvin estimated that 127 members under notice of dismissal would join them in a few days.

The Greater Sufferers

A breakdown of the types of jobs upon which ACT unemployed were engaged indicates that the greater sufferers are those in assistant grades. Assistant directors, publicity men, assistant cutters and sound department crew all figure prominently on the unemployed list. But every grade of technical film employment is represented in this list, which makes very dreary reading.

The office staff in Soho Square fully realises one thing: that ACT members, unlike the majority of studio employees, cannot turn to jobs outside the industry. Their skill is in film-making, and most of them have to make films to live.

The NATKE (and for that matter the ETU members) are fortunate. They are craftsmen and, although the rate of pay is more attractive in film studios, they can in most cases find jobs in the building and kindred trades.

A. R. Mingaye, NATKE studio group organiser, was telling me that between 7,000 and 8,000 of the union's members are normally engaged on film work. During recent months 1,355 have been dismissed. The union has 720 on its unemployment lists, but 280 of its members have now found temporary work outside the industry.

In terms of money, the producers as a whole must have slashed their weekly wage bill by about £32,000 in the last twelve months. But cutting staff is a foolish form of economy unless more pictures (or at least the same number as in previous years) are going to be made.

Employees Ask Why

My colleague, V. J. Burtt, in his financial review, speaks of £12,000,000 which has been lost to British production. This has led to the closing-down of many studios, to the slow-down of production in others. Employees may well ask why Shepherd's Bush (which Maurice Ostrer operated at a good profit for many years) is now dark, why National (which turned out 54 films from its four stages during the eight years 1940-47) should be out of production, and why the three-studio Alliance group, virtually rebuilt and re-equipped in 1947, should have been idle for much of the time since then.

The causes for the slump have been the subject of previous KINE. reviews. In simple terms, British production has gone broke because films have cost more to make than they can recover from *available* markets. For this reason, the Board of Trade's Working Party into production costs is tackling the most important job of trying to solve the root cause of the trouble.

My job now is to sum-up new developments which, during recent weeks, have given the industry every cause to believe that the depth of the slump has now been reached and that prospects for the future are more bright than they have been for the last twelve months.

A number of statements have been made recently by exhibitors about the actual costs of nearly 90 recent British pictures. Many of them are incorrect. During past years the KINE. has published a number of representative costs, most of them figures quoted by producers themselves. It is reasonable to

Continued on page 11

	Technical.	Constructional.	Clerical and Others.	Total.
June, 1946	997	2,803	876	**4,676**
December, 1947	1,852	3,694	1,508	**7,054**
March, 1948	1,728	4,186	1,704	**7,618**
September, 1948	1,737	3,894	1,730	**7,361**
March, 1949	1,094	2,668	1,457	**5,219**
Redundancy since September, 1948	643	1,226	273	**2,142**

The complete studio by studio employment figures appear on pages 10 and 11. The following table indicates the redundancy during recent months in the major production groups :

	Technical.		Constructional.		Clerical and others.		Total.	
	Sept., 1948.	March, 1949.	Sept., 1948.	March, 1949.	Sept., 1948.	March, 1949.	**Sept., 1948.**	**March, 1949.**
Rank Associates : Denham, Pinewood, Shepherd's Bush, Islington, Ealing, Highbury, Gate	854	396	2,226	1,332	678	438	**3,758**	**2,166**
London Films : Isleworth, Shepperton ...	304	160	755	395	211	269	**1,270**	**824**
U.S. Control : M-G-M British, Teddington	149	143	558	280	340	412	**1,047**	**835**

BRITISH STUDIOS—THEIR SPACE AND PERSONNEL RECORD

STUDIO.	NO. OF STAGES.	SIZE OF STAGES.	EMPLOYMENT.	JUNE, 1946.	DEC., 1947.	MARCH, 1948.	SEPT., 1948.	MARCH, 1949.
ABPC (ELSTREE) ...	4	(1) 100 ft. × 150 ft. = 15,000 sq. ft. (2) 100 ft. × 150 ft. = 15,000 sq. ft. (3) 100 ft. × 150 ft. = 15,000 sq. ft. (4) 100 ft. × 150 ft. = 15,000 sq. ft. **Total : 60,000 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... ... **Total :**	N.O. — — —	N.O. — — —	N.O. — — —	150 E 200 E 150 E **500 E**	81 231 132 **444**
BEACONSFIELD	1	115 ft. × 55 ft. **Total : 6,325 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... ... **Total :**	N.O. — — —	N.A. — — —	N.A. — — —	N.A. — — —	89 85 30 **204**
BRIGHTON	2	(1) 60 ft. × 40 ft. = 2,400 sq. ft. (2) 75 ft. × 40 ft. = 3,000 sq. ft. **Total : 5,400 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... ... **Total :**	— — — —	— — — —	— — — —	— — — —	N.A. — — —
BUSHEY	1	60 ft. × 40 ft. **Total : 2,400 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... ... **Total :**	20 16 8 **44**	20 16 8 **44**	20 16 8 **44**	20 16 8 **44**	3 6 3 **12**
CARLTON HILL	2	36 ft. × 24 ft. = 864 sq. ft. 18 ft. × 24 ft. = 432 sq. ft. **Total : 1,296 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... ... **Total :**	N.A. — — —	N.A. — — —	N.A. — — —	N.A. — — —	8 8 4 **20**
DENHAM	7	(1), (2) & (3) 116 ft. × 77 ft. = 8,932 sq. ft. (4) & (5) 244 ft. × 114 ft. = 27,816 sq. ft. (6) 114 ft. × 115 ft. = 12,995 sq. ft. (7) 129 ft. × 115 ft. = 14,825 sq. ft. **Total : 110,248 sq. ft.** Stage 1 is music recording theatre.	Technical ... ... Construction ... ... Clerical and others ... ... **Total :**	100 800 100 **1,000**	100 800 200 **1,100**	295 610 295 **1,200**	306 730 174 **1,210**	135 492 148 **775**
EALING	5	(1) 58 ft. × 34 ft. = 1,972 sq. ft. (2) 126 ft. × 76 ft. = 9,576 sq. ft. (3A) 85 ft. × 71 ft. = 6,035 sq. ft. (3B) 85 ft. × 71 ft. = 6,035 sq. ft. Model stage, 79 ft. × 61 ft. = 4,819 sq. ft. **Total : 28,437 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... ... **Total :**	130 240 130 **500**	152 226 150 **528**	152 226 150 **528**	152 226 150 **528**	120 187 150 **457**
GATE (ELSTREE) ...	2	126 ft. × 80 ft. = 10,080 sq. ft. 30 ft. × 45 ft. = 1,350 sq. ft. **Total : 11,430 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... ... **Total :**	N.O. — — —	N.A. — — —	46 103 9 **158**	46 103 9 **158**	20 62 11 **93**
HIGHBURY	2	113 ft. × 60 ft. = 6,780 sq. ft. 60 ft. × 30 ft. = 1,800 sq. ft. **Total : 8,580 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... ... **Total :**	N.A. — — —	60 75 10 **145**	60 75 10 **145**	N.O. — — —	N.O. — — —
ISLEWORTH	3	(1) 127 ft. × 83 ft. = 10,541 sq. ft. (2) 127 ft. × 42 ft. = 5,334 sq. ft. (3) 96 ft. × 44 ft. = 4,224 sq. ft. **Total : 20,099 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... ... **Total :**	26 100 17 **143**	26 100 17 **143**	16 201 96 **313**	69 106 76 **251**	L — — —
ISLINGTON	2	(1) 92 ft. × 63 ft. = 5,796 sq. ft. (2) 96 ft. × 46 ft. = 4,416 sq. ft. **Total : 10,212 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... ... **Total :**	27 123 41 **191**	30 133 12 **175**	51 165 14 **230**	72 177 21 **270**	N.O. — — **405**
MANCHESTER	2	(1) 100 ft. × 55 ft. widening to 80 ft. = 6,750 sq. ft. approx. (2) 50 ft. × 40 ft. = 2,000 sq. ft. **Total : 8,750 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... ... **Total :**	N.O. — — —	9 14 5 **28**	9 14 5 **28**	9 14 5 **28**	9 14 5 **28**
MARYLEBONE	2	50 ft. × 23 ft. = 1,150 sq. ft. 50 ft. × 23 ft. = 1,150 sq. ft. **Total : 2,300 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... ... **Total :**	N.O. — — —	11 9 3 **23**	11 9 3 **23**	11 9 3 **23**	11 9 3 **23**
MERTON PARK	2	(1) 72 ft. × 66 ft. = 4,752 sq. ft. (2) (L-shaped) 42 ft. × 17 ft. with 18 ft. × 17 ft annex = 1,020 sq. ft. **Total : 5,772 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... ... **Total :**	*121 †0 *31 †30 *22 †0 ***174 †30**	*62 †57 *0 †39 *42 †33 ***104 †129**	*62 †57 *0 †39 *42 †33 ***104 †129**	*62 †57 *0 †39 *42 †33 ***104 †129**	*60 †55 *0 †25 *45 †30 ***105 †110**
M-G-M BRITISH	7	A (1) 11,520 sq. ft. (2) 7,100 sq. ft. B (3) 18,820 sq. ft. C (4) 11,520 sq. ft. (5) 7,100 sq. ft. D (6) 11,500 sq. ft. (7) 6,000 sq. ft. **Total : 73,560 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... ... **Total :**	N.O. — — —	96 376 230 **702**	96 257 238 **591**	108 369 307 **784**	103 195 344 **642**
NATIONAL	4	C & D = 80 ft. × 112 ft. = 8,960 sq. ft. B = 36 ft. × 61 ft. = 2,196 sq. ft. E = 80 ft. × 168 ft. = 13,440 sq. ft. **Total : 33,556 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... ... **Total :**	100 290 140 **530**	113 238 84 **435**	111 238 47 **396**	N.O. — — —	N.O. — — —
NETTLEFOLD	3	(1) 88 ft. × 52 ft. = 4,576 sq. ft. (2) 100 ft. × 85 ft. = 8,500 sq. ft. (3) 120 ft. × 65 ft. = 7,800 sq. ft. **Total : 20,876 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... ... **Total :**	126 — 10 **136 A**	126 120 10 **256**	126 120 10 **256**	126 120 10 **256**	— — — **119‡**
PINEWOOD	5	(1), (2) & (3) 165 ft. × 110 ft. = 18,150 sq. ft. (4) & (5) 110 ft. × 82 ft. = 9,020 sq. ft. **Total : 72,490 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... ... **Total :**	20 450 80 **550**	110 741 90 **941**	110 741 90 **941**	70 633 111 **814**	86 531 79 **696**

Continued on Facing Page

THE LABOUR SITUATION—*Continued*

estimate on these figures, which are known to be accurate, that overall production costs have risen since pre-war by about 200 per cent. A picture made for £40,000 in 1938 would cost £120,000 to make today. A recent ACT survey referred to a typical example at Ealing where two similar pictures were compared—the pre-war subject cost £29,000 and the recent film £94,000.

The union made these comments on cost increases:—

Overheads increased by 400 per cent.
Managerial services increased by 200 per cent.
Story and script charges increased by 100 per cent.
Set costs increased by 200 per cent.
Extra rates increased by 75 per cent.
Labour rates increased by 50-75 per cent.
Studio rent variously from 75 to 300 per cent.

Producers, who should have tackled the question of costs months ago, are now faced by necessity with having to make films more cheaply or not making them at all.

The KINE. has time and again emphasised that films are taking too long to make. Schedules must be trimmed more drastically. The average first feature took six weeks to make before the war, now it takes about twelve weeks, although in 1947 the overall schedule average was 14 weeks. Technicians say that the average screen time shot per day is now 1 to 1.5 minutes, compared with up to 4 minutes on the average pre-war feature.

Too many pictures still go into production with incomplete scripts and too many script changes are made during actual shooting. This statement from the recent ACT survey points to a major fault in production administration during active production: "One respect in which schedules may be too long is from inclusion in the script of sequences subsequently cut from the film before it reaches the screen and the redundancy of which should have been foreseen. The total of sequences discarded has been as high as 40 minutes, and discards of 15, even 30, minutes are not uncommon, totalling 20 per cent. and even more of the eventual length."

More efficient methods of production will help to reduce costs. New techniques, such as "independent frame," will help to give the same technical and artistic effect for less money. The KINE. supported the "independent frame" idea from its inception four years ago. Used intelligently I am sure it can be an asset to British production, although the technique may not be suitable for every type of subject or treatment.

Now producers, through the BFPA, are about to review the whole system of trade union agreements. They hope to establish a single wages and conditions agreement for all studio workers. It will be a difficult negotiating problem, but it is something well worth while. In short, producers want better value for their money. There are many restrictive practices which could be avoided without hardship to any employee. And the unions, who have cause to criticise producers on many counts, should be more self-critical in this respect.

Members of ACT would do well to spend a little more time this year at their annual meeting on April 9, discussing how they can make production more efficient rather than repeating last year's performance when nearly four hours was spent on a fruitless "Communist witch-hunt."

Producers and unions have agreed on one thing—that British films do not get a fair proportion of the gross box-office takings. The Exchequer takes a large proportion in tax, a reduction would be welcome, but it is improbable that any reduction can be made by the Government to benefit British producers in particular.

The economic structure of production-distribution-exhibition is now being surveyed by the Portal Committee, which is expected to report to Harold Wilson, President of the Board of Trade, late in May. The findings of this committee (and one of them may well be that production should be divorced from exhibition) will do much to guide the Government in what action is best to put production on a sound long-term basis.

The Government has already decided to help production with a £5,000,000 loan through the National Film Finance Corporation. The corporation is slow to act; it should make substantial loans on easy terms at once if studios and capable production units are not to remain idle.

Harold Wilson rejected the exhibitor pressure and made only a slight reduction in the 1949-50 quota. And there is the challenge to the industry as a whole. We must make more films at once.

Among the signs of improvement to which I have referred are the plans for a full programme of pictures to be made in the Riverside and Southall studios of the Alliance group, the resumption of production later

Continued on page 13

BRITISH STUDIOS — THEIR SPACE AND PERSONNEL RECORD

RIVERSIDE	2	(1) 105 ft. × 75 ft. = 7,875 sq. ft. (2) 80 ft. × 60 ft. = 4,800 sq. ft. **Total : 12,675 sq. ft.**	Technical	25	25	25	25	—
			Construction	100	100	100	100	—
			Clerical and others	50	50	50	50	—
			Total :	**175**	**175**	**175**	**175**	**39R.**
SHEPHERD'S BUSH ...	5	(2) 85 ft. × 40 ft. = 3,400 sq. ft. (3) 115 ft. × 55 ft. = 6,325 sq. ft. (4) 120 ft. × 85 ft. = 10,300 sq. ft. (5) 85 ft. × 71 ft. = 5,235 sq. ft. (6) 85 ft. × 65 ft. = 5,525 sq. ft. **Total : 30,785 sq. ft.**	Technical	179	208	208	208	25
			Construction	265	357	357	357	40
			Clerical and others	167	213	213	213	40
			Total :	**611**	**778**	**778**	**778**	**105**
SHEPPERTON	5	(1) & (2) 150 ft. × 120 ft. = 18,000 sq. ft. (3) & (4) 100 ft. × 120 ft. = 12,000 sq. ft. Silent stage: 250 ft. × 120 ft. = 30,000 sq. ft. **Total : 90,000 sq. ft.** Recording stage: 100 ft. × 90 ft. = 9,000 sq. ft.	Technical	N.A.	179	213	235	160L
			Construction	—	265	644	649	395
			Clerical and others	—	167	368	135	269
			Total :	—	**611**	**1,225**	**1,019**	**824**
SOUTHALL	1	125 ft. × 60 ft. **Total : 7,500 sq. ft.**	Technical	N.O.	30	30	30	N.O.
			Construction	—	42	42	42	—
			Clerical and others	—	15	15	15	—
			Total :	—	**87**	**87**	**87**	—
TEDDINGTON	2	(1) 123 ft. × 70 ft. = 8,610 sq. ft. (2) 130 ft. × 83 ft. = 10,790 sq. ft. **Total : 19,400 sq. ft.**	Technical	50	68	41	41	40
			Construction	60	105	189	189	85
			Clerical and others	100	34	33	33	68
			Total :	**210**	**207**	**263**	**263**	**193**
TWICKENHAM		140 ft. × 80 ft. **Total : 11,200 sq. ft.**	Technical	N.O.	35	35	35	N.O.
			Construction	—	90	g0	90	—
			Clerical and others	—	30	30	30	—
			Total :	—	**155**	**155**	**155**	—
VIKING	3	40 ft. × 26 ft. = 1,040 sq. ft. 35 ft. × 26 ft. = 910 sq. ft. 26 ft. × 27 ft. = 702 sq. ft. **Total : 2,652 sq. ft.**	Technical	N.A.	N.A.	N.A.	N.A.	7
			Construction	—	—	—	—	12
			Clerical and others	—	—	—	—	8
			Total :	—	—	—	—	**27**
WELWYN	3	(1) 59 ft. × 39 ft. = 2,301 sq. ft. (2) 82 ft. × 53 ft. = 5,246 sq. ft. (3) 99 ft. × 79 ft. = 7,821 sq. ft. **Total : 15,368 sq. ft.**	Technical	60	46	36	47	38
			Construction	149	167	170	172	167
			Clerical and others	36	53	38	46	47
			Total :	**245**	**266**	**244**	**265**	**252**
WINDSOR (CURSITOR ST.)	2	(1) 56 ft. × 30 ft. (annex 26 × 20 ft.) = 2,200 sq. ft. (2) 22 ft. × 26 ft. = 572 sq. ft. **Total : 2,772 sq. ft.**	Technical	—	9	8	8	4
			Construction	—	11	12	10	5
			Clerical and others	—	2	2	2	2
			Total :	—	**22**	**20**	**20**	**11**

N.O. = Not operating. N.A. = Not available. L = Figures for British Lion studios (Shepperton and Isleworth) are amalgamated as studios operate as one unit for purposes of employment records. S = Number of people employed on service work, maintenance and in the cutting rooms of studios currently without productions. * = Staff at the studio. † = Staff at Guild House. A = Approximate total. ‡ = Service staff other than needs of producers who become studio tenants for particular pictures, and need additional technical or other staff facilities. E = Estimate. R = Studio reopens this week, figure quoted is skeleton staff at March 7.

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FOR THEM THAT TRESPASS
(A.B.P.C.—PATHE)

THAT DANGEROUS AGE
(DENHAM FILMS—BRITISH LION)

THE LAST DAYS OF DOLWYN
(BRITISH LION)

MAN ON THE RUN
(A.B.P.C.—PATHE)

SAINTS AND SINNERS
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THE LABOUR SITUATION—contd.

next month by M-G-M-British and the fact that Teddington is trying to keep production turning over. The smaller studios are also steadily filling in rental dates.

But even then a considerable amount of production facilities will be totally out of action; some have been for many months, and there is every indication that they will be for many months to come. They comprise:—

8 studios.
20 stages.
110,683 sq. ft. of space.

That includes modern plants such as National, Shepherd's Bush and Islington. Many of those studios which are working now are employing drastically reduced staffs and are by no means functioning at full pressure.

The latest figures of British studio facilities show that we have the following floor space available for feature production:—

27 studios.
80 stages.
673,983 sq. ft. of space.

These include eight small studios which are wholly unsuitable for first-feature production. But the space is capable of providing 150 features a year of high production quality. In 1937, on 64 stages in 21 studios, with a total area of 550,082 sq. ft., Britain made 179 features, a production output which excludes the worse type of quota quickie. The actual Board of Trade registration for British features for the year 1937 was 225 features. We made 63 features in 1948.

Things are in a bad way, for, although there are indications that at last the slump has been halted, we cannot expect a rapid recovery. It may be a long time before Britain's studios are back in full production. It is going to mean hard work and complete producer-union co-operation.

One thing must be resolved: Let no one make the same mistakes again!

The last pay off. Studio hands at Shepherd's Bush draw their money on the eve of Gainsborough's close down

BSI Determines Lamps for the Job

Included in a recent British Standard, No. 1522:1949, Schedule of Projector Lamps, are the following types of lamps used in the studio: Class B1, B2—floodlighting; and Class S—studio spotlight lamps. The latter are shown in the following sizes only: 115, 240 v. 2 kw. Bipost. 152.5 mm. bulb diameter, life 100 hours; 115,240 v. 5 kw. Bipost. 203 mm. bulb diameter, life 100 hours.

GEC Lights a Model Studio Set

General Electric has loaned the lighting equipment for a model film studio at an exhibition of still photography opened at Derry and Toms, Kensington, on March 23.

Two 2-kW. and 500-W. studio spotlights and two single-light (1½ kW.) broadside floodlights are being shown in a reproduction of the type of studio used by film companies for taking publicity portraits of artists.

Technicians Quiz Independent Frame Process Experts

BKS-ACT HEAR PROGRESS REPORT AND POSSIBILITIES FOR FUTURE

SIX pictures a year from one stage: that is the production schedule aimed at, and on the first three films the production rate actually achieved, by the Independent Frame process.

The process (first outlined in the KINE.) was given at last week's joint BKS-ACT meeting by David Rawnsley, originator of the process; Donald Wilson, the first producer to work with it; and Maurice Gorham, formerly of BBC television, who forecast the combination of the process with television recording.

A suggestion made in course of the discussion was that the Government, instead of paying money to the trade to wipe out debts on past production, should equip one or more independent studios with the expensive plant needed for I.F, and so create an investment of permanent value to the industry.

Summarising the problems of assuring a continuous flow of production, Wilson placed first the timing of the various subjects to enable locations to be shot at the appropriate time of the year. Second was the allocation of personnel to the various pictures, and a third was the spacing of the director's time, since delay might elapse between the completion of the frame and the start of shooting.

The next major problem was the planning of the sets and fitting them on the stage in correct order. The chief problem, however, was to strike a balance between quality and cost; as producer he had had at times to say that a more economical method should be used.

Turning to the budget, Wilson pointed out that as soon as the frame was prepared, shooting costs could be calculated with some exactness. The first film had been made to a budget of £107,000; the following were the relative percentage costs:—

	Per cent.
Lighting and camera manipulation ...	55
Shooting	19.5
Rehearsals	18
Unavoidable delays ...	5
Hold-ups	2.5

Shooting time averaged 2½ minutes a day.

The wide use of process work was demonstrated by the projection of a number of sections of film from the first two productions, interrupted by slides illustrating how little of each set had been built.

Replying to Mr. Johnson, Wilson stated that it was hoped to overcome the problem of the changing perspective as a camera trucked up to a BP screen, by means of a variable focus projection lens. David Rawnsley told A. Van Moerkeken that developments in diffusing screens had largely overcome the need for the use of long-focus lenses in BP.

W. Bland objected that the proposal to carry out television mixing on the floor looked like being a glorified dubbing session, with the added expense of having the artists on the floor. By using a number of cameras, all dramatic lighting would be lost, and sound perspective would be spoilt.

George Gunn referred to the absence of provision in the I.F process for colour filming; Rawnsley agreed that an extension of the process to provide for colour was a matter of immediate priority, since it was realised that ultimately the majority of films would be in colour.

T. S. Lyndon-Haynes warned against the indiscriminate application of I.F principles to all classes of production, and particularly the use of trick work for its own sake.

A. W. Watkins, the chairman, asked what were the views of the artists in regard to the process. Derek Bond and J. Justice spoke convincingly of the indifference of the actor to his background, the latter indicating one point of practical advantage: that the actor knew when he was to be called.

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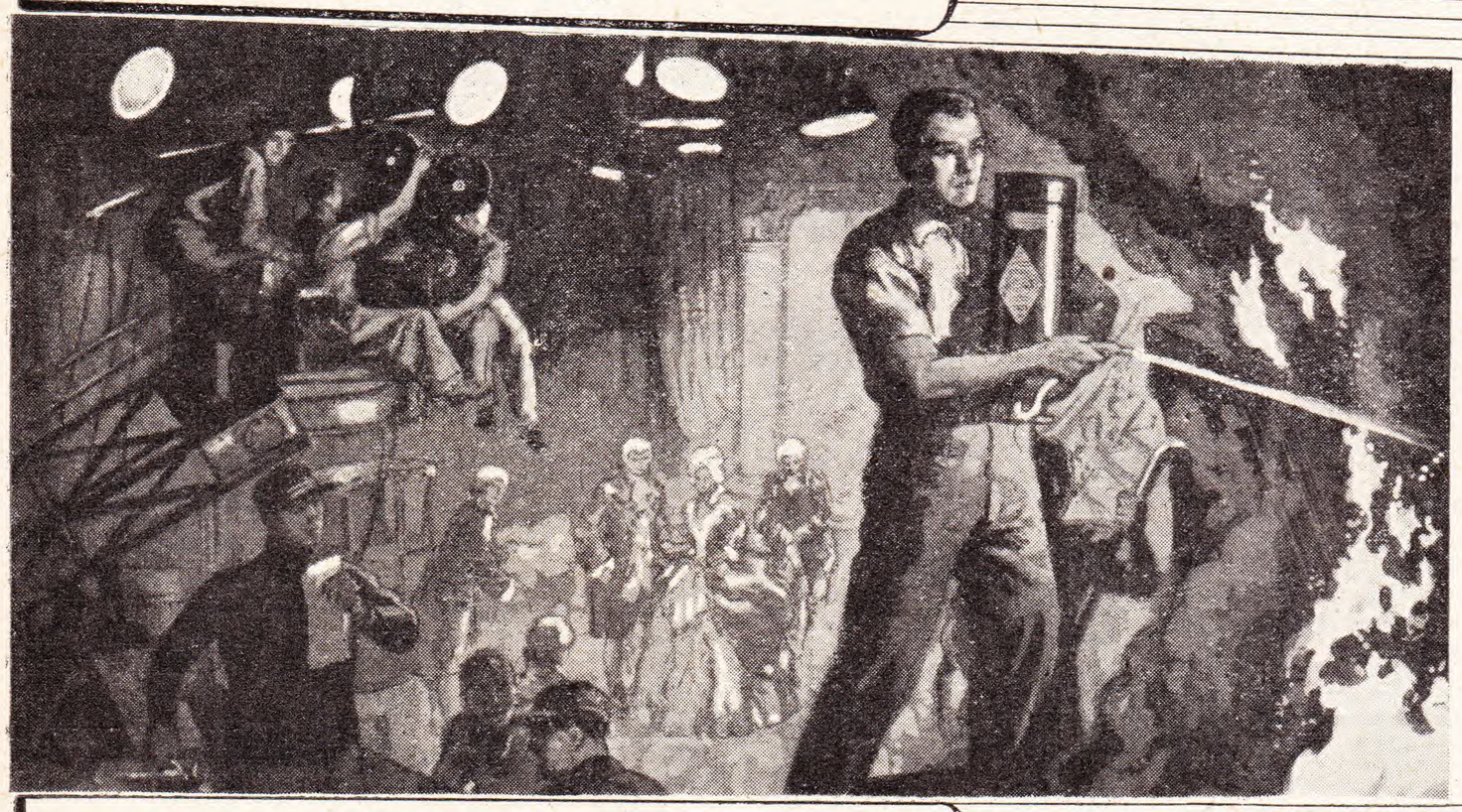

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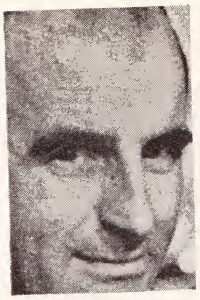


GOVERNMENT'S "INCURSION INTO FILM PRODUCTION FINANCE"

Frank Launder Views it with Misgivings

"I VIEW the incursion of the British Government into film production finance with considerable misgivings," declared Frank Launder, in a talk to the North-Western branch of the Society of Cinematurians at its monthly luncheon in the Tudor Restaurant, Liverpool, on Friday.

It seemed to him that the Government, or any Government Committee, were bound to play safe, and very safe, with the taxpayers' money because there were always a lot of "narks" on the Opposition benches who would get up and question any loss.

There were no such things as certainties in films any more than there were at Aintree, and there could be no future for British films if the Government, in attempting to play safe, forced British film producers into making any film versions of radio successes like, say, "Variety Bandbox" as opposed to films like "The Red Shoes," "Great Expectations," "Fallen Idol," "It Always Rains On Sunday," and so on.

"I do not say the Government will do this, but," he added, "I feel there is bound to be a strong tendency in this direction.

The Banks' Attitude

"If you ask me if there is any alternative at the present moment, since the banks appear reluctant to 'cough up,' all I can say is to slightly vary the cry which I have seen a number of times in the Press recently, and say that there is nothing wrong with the British film industry that a few multi-millionaires could not cure temporarily."

Another reason for the high cost was the price of materials, mainly in regard to the building of sets. There was one way round that problem and that was to have fewer sets and shoot more on location. The third reason was restrictive trade union practices.

W. R. Fuller had said that British film producers would be better off if they listened to what exhibitors had to say. He had never been one to ignore the advice of exhibitors when it had been offered, which was seldom.

"If we were to follow the policy of the late Edward Black," added Mr. Launder, "basing our programme upon a diversity of product, a properly planned economy, a star building system and a careful selection and preparation of story material, we might then be abe to produce a very consistent stream of product which the public would welcome."

Launder considered that the vital problem which faced the producers of British films today was the problem of good-quality films at economic costs.

"Mr. Fuller," said Launder, "in a somewhat acid correspondence I have been having with him in the *New Statesman*, asked me if I would dare to deny that British film studios have been a spendthrift's paradise in the last few years. I don't completely deny it.

"There have been cases of producers over-spending on a vast scale, perhaps in the mistaken belief that the American market was open to them or, perhaps, just because they were the type of people who would over-spend anyway. At the same time the bulk of experienced British producers have tried very hard to keep the rising costs down and to combine quality with economy. But, believe me, it is no simple matter."

Costs had risen steeply because of inflated overheads. They were no longer inflated, but unhappily in the process thousands of people had been sacked. Overheads were inflated because it was hoped British films would be able to compete in the world markets and it was necessary to build up a world organisation.

British films were taking ten times more money in the markets outside this country than they ever had done in their history.

"It is impossible, even in the best organisations, to make every film a box-office one, or indeed to make every film a good one. But I think it is possible to stop making dull films, or, at any rate, to minimise the risk, and this can be done by building up proper story departments and selecting the right writers to write the script. I maintain that this country is richer in writers than any other country in the world if producers will only use them sensibly."

W. J. Speakman, who presided in the unavoidable absence of Douglas Westwood, chairman of the branch, said he agreed that some of the exhibitors' difficulties might be solved if they could meet the producers.

On behalf of the branch, the chairman welcomed among the special guests Jean Simmons, Sonia Dresdel and Mary Clare who, with Stewart Granger, are appearing at the Royal Court Theatre, Liverpool, in "The Power of Darkness." In the morning GFD trade showed "The Blue Lagoon" at the Trocadero.

W. J. McAree, proposing a vote of thanks to Mr. Launder for his address, said producers should forget about the West End and not get too far in front of the public. They should just keep a little bit in front and then they would teach them what they were trying to do. If they produced a film they intended to sell they should produce a drama.

BofT TO EXAMINE UNIT PROGRAMME PLAN

THE American unit programme policy—and its effect upon quota fulfilment—is being closely examined by the Board of Trade.

This was revealed by Harold Wilson, President of the Board of Trade, at last week's annual luncheon of the Association of Specialised Film Producers.

Mr. Wilson referred to the unit plan as a restrictive practice to which the Films Council had invited the Board to give immediate attention. It may be, he said, that this allegation of restrictive practice might come within the terms of reference of the Portal Committee and also within the purview of the Monopoly inquiry.

Mr. Wilson said he could not say much about the general position of film production, that would be anticipating the full review of the situation which he would submit to the House of Commons when it would be asked to approve the new first-feature quota for 1949-50.

The Films Council showed unusual unanimity in agreeing to recommend the maintenance of the 25 per cent. quota, although it must be recognised that many exhibitors were unable to fulfil it. The main reason for this, he thought, was the present policy of the majority of American companies of refusing to permit their films to be played in the same programme as a British film. It was certainly a fact that the marketing difficulties of members of the association had been aggravated by the adoption of the American Unit.

"Following the resolution of the Films Council, I am considering its implications," added Mr. Wilson, who went on to make the reference quoted to restrictive practices.

Mr. Wilson said the problems of the specialist film producer were twofold. First, there was the restricted market for his product, and secondly, the relatively meagre rentals he received. In the first instance, "quality" shorts had too often been undersold by shorts or no particular merit whatever, so that rather than have to produce at a loss or debase their standards of quality members of the ASFP had preferred to leave the business alone or to concentrate on the market for so-called "sponsored" productions.

The society's other problem, the relatively low revenue paid for their products, was partly a result of the present economic position of the industry and partly a question of the general division of revenues between first-feature producers, producers of the supporting programme, the distributors and exhibitors. This was a matter for the Portal Committee.

The Government had called upon the services of specialised film producers to a considerable extent and in the last two years contracts with 16 companies had been placed at a total cost of £176,000.

ASFP WANTS TO MAKE BULK OF SUPPORTING FILMS

MEMBERS of the Association of Specialised Film Producers feel very strongly that they ought to produce the bulk of films—both long and short—which are required for the supporting programme.

F. A. Hoare, the chairman of the association, made this point at the annual luncheon, at which he stated that the comparative stability of that branch of film production is "certainly due to the fact that we have concentrated the main part of our resources on making sponsored films.

"We have learned," he said, "not to rely wholly or even mainly on making films for the public kinemas."

Mr. Hoare told Harold Wilson, the guest of honour, that he regretted he had not agreed to a progressive raising of the quota, particularly for supporting films, of which there is no shortage.

It ought not to be beyond the bounds of practicability for producers, distributors and exhibitors to devise ways and means to make production of such supporting product economically sound—which, Mr. Hoare declared, it certainly is not at present. ASFP deplored the continued policy of the exhibitors indicated by their references to "fill-up"—their apparent indifference to quality and real entertainment value in supporting films—and their obvious determination to get the "footage" they required for the least possible expenditure of money. Until we can rely upon everybody concerned giving home-produced films a fair chance, Mr. Hoare declared, the quota is an absolutely essential element in the slow and laborious process of rebuilding home film production.

"The principal task which ASFP has now set itself is to bring about a change in the general attitude to the supporting programme. By this we don't mean only shorts, but all those films which occupy the space between the first feature and the newsreel. Much of it is disgracefully bad as entertainment. We don't want to see it used for so-called educational and cultural purposes, though we do invite a more intelligent approach to it.

"We have to persuade exhibitors that they must be prepared to pay enough for it to enable producers to invest sufficient money to get good-quality results and to see a reasonable chance of getting their money back.

"We want to stop the practice of virtually giving away the supporting films in order to get a higher percentage rental for the first feature—this practice seems to be at the root of the problem.

"We hope there may be a lightening of the tax burden on the industry—but we strongly urge that any such relief be effected so that the producers' share of the money spent by the public is more fair and reasonable."

THE COUNTRY HOUSE AS A FILM STUDIO

Equipment Companies Seeing the Possibilities of the Expansion of this Practice are Marketing Gear to Ease the Problems that Invariably Arise

By R. HOWARD CRICKS, FBKS, FRPS

WITH studio rentals still standing at a very high level the producer with restricted financial resources is always on the look-out for some way to conserve cash—but not at the cost of quality. All-location subjects are one solution; converting a large country house or mansion into a studio is another.

It is this second course which has attracted considerable attention from the "small" producer over the last 12 months. One unit—Jimmy Carreras' Exclusive Films—is obviously finding the method encouragingly efficient as it has drawn up a long-term programme for its house-studio at Cookham Dean.

The immediate advantages of house-studio production were outlined by Harry White in the KINE. of June 10, 1948. Briefly, they are that the actual cost of the house compares favourably with the studio rentals asked; the fact that with the right story material, the house actually produces the sets for the film; chosen correctly, the house can be in the centre of location country.

Production Difficulties

These advantages are, of course, accompanied by many production problems involving camera technique, lighting and sound, but it is interesting to note that equipment firms foreseeing the possibilities of an expansion of the house-studio practice, are marketing gear to ease the difficulties which invariably arise.

First, the difficulty of securing long-shots in a room having four walls. The obvious suggestion of a 35-mm. lens is hardly adequate, and the distortion of perspective which it produces is particularly noticeable in a room having walls at right-angles. Although logically a panning shot should convey the same impression of spaciousness, in practice it fails to do so, and again accentuates the distortion due to the use of a short-focus lens. Yet another problem is the high relative intensity of genuine daylight shining through the windows and causing halation.

These two problems have been solved by placing the camera outside the room and shooting through a window. In at least one case a light tunnel was constructed between the lens and the window frame. By the use of different lenses it was possible to range from a long-shot to a mid-shot.

In spite of the limitations of space, tracking shots have been introduced by making use of doorways—this is rendered possible by the narrow wheelbase of one of the Vinten dollies.

An even greater problem than the four walls is the ceiling. The ceiling of a genuine room cannot be removed, and the resultant difficulties of lighting and sound must be overcome.

While for lighting, inkies are generally used, mercury has the advantage of greater efficiency from a possibly limited current supply, and of producing less heat in the confined space. Multiple H.D. Industries has produced a 1-kW. mercury unit, adapted to run direct from A.C. mains; striking is by a Tesla coil, worked by a simple press-button.

Limited Space

Orthodox lamp stands are apt to be in the way in the confined space. A country house must not be knocked about, nor must stirrups be screwed into the walls. Special fittings have been made for hanging lamps on picture rails. For supporting overhead lights in a beamed room brackets were specially made, supporting 1-kW. lamps actually on the beams, and without damaging or marking the latter in any way.

Back lighting is complicated by the fact that any lamps will almost inevitably get into the picture. An idea originated by Mole-Richardson is to mount a 500-watt spot on a counterweighted boom, so that in the case of a near shot it can be suspended above the artistes.

Another practice is to mount a mobile spotrail upon a couple of lamp stands, so that a group of lamps can be moved as a single unit.

Many country mansions have substantial electric mains and loads of as much as 50 kW. can often be taken direct from the mains, possibly with the co-operation of the local authority in providing heavy fusing. Where mains capacity is not adequate, petrol generators are the obvious answer. Mole-Richardson, for instance, listing a range from 200 to 1,500 amps., all, of course, at 110 v. D.C.

Sound Accommodation

The mechanical side of sound recording presents no difficulty, normal sound trucks being used. Both RCA and GB-Kalee have supplied trucks adapted for such work. The only equipment needed in the house is the mixer and microphones—two cables running back to the truck, which can be at a considerable distance from the house.

GB-Kalee suggests that for certain classes of work its forthcoming single-film channel might be of value. This will comprise a Newall camera fitted with a self-contained recording head, producing a density track upon the picture negative. It is not to be expected that an equivalent quality of sound will be obtained with single-channel working, but the equipment is exceedingly portable.

In view of the acoustic difficulties inseparable from filming in a "live" room, the cardioid microphone is an obvious choice. An advantage is that it is very insensitive to stray noise, and can be placed quite close to the camera without serious pick-up. Some recordists, however, prefer to stick to the alternative use of pressure and velocity mikes.

The orthodox microphone boom would be as much at home in the circumstances we are considering as a giraffe in a drawing-room. Special low booms are necessary—Multiple H.D. has, for instance, made a number, only 4 ft. in height. This particular boom was of inestimable value on one occasion, when sound had to be recorded in a tunnel only 4 ft. high, leading out of a cellar.

Using a country house as a studio has money-saving attractions, but the technique brings forward a crop of technical problems such as tracking, lighting and sound pick-up. These considerations are receiving the attention of the equipment manufacturers who are marketing special gear to meet the job

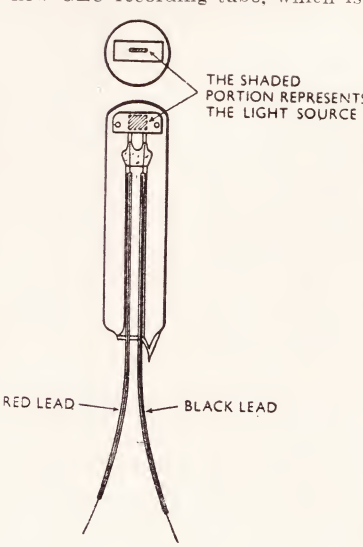
CHANGE OF TITLE

The Gregory Ratoff production recently completed at London Films Studios, Shepperton, for British Lion distribution, reverts to the original and now final title of "That Dangerous Age."

It stars Myrna Loy, Roger Livesey, Peggy Cummins and Richard Greene.

NOISELESS RECORDING BY GLOW-LAMP

NOISELESS variable-density recording by a discharge lamp has been achieved by the use of a new GEC recording tube, which is incorporated in the United Motion Pictures recording system.



For a number of years a series of GEC mercury discharge tubes have been used for recording; for newsreel work, however, it was required that the tube should operate at a low voltage in order to reduce battery capacity and should need no warming-up period. The result of these requirements was the development of the NGD tube.

This tube is filled with a nitrogen-helium mixture, and operates at a voltage of 220 volts, the striking potential being about 300 volts. A feature of the tube is its wide working range; a characteristic curve shows that over a range of 2 to 20 m.a. the light output varies from 20 per cent. to 240 per cent. of the output at a mean current of 10 m.a. This working range makes it possible to use the tube for noiseless recording.

In the "Waterlite" recording camera of United Motion Pictures the light source is imaged direct on to the film, while for 16-mm. recording an adjustable mask is incorporated.

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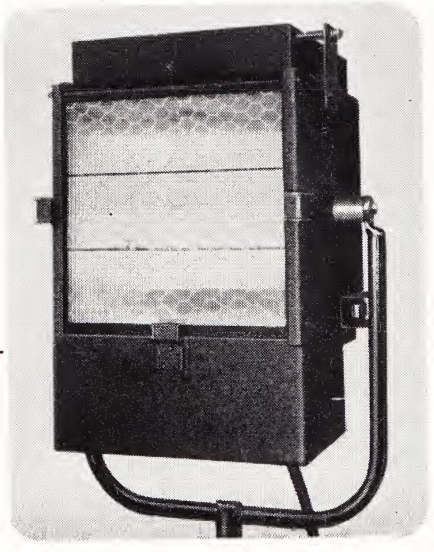

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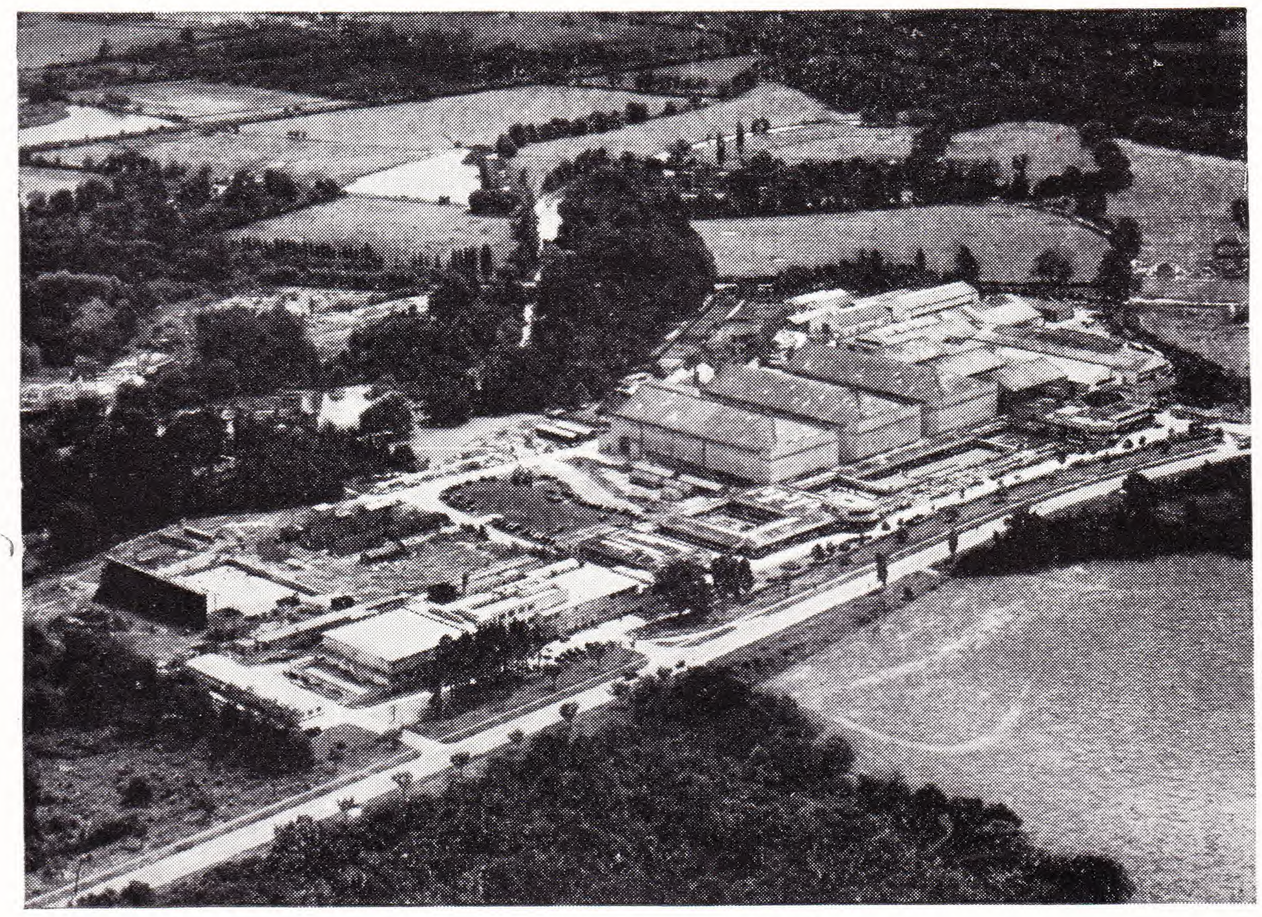

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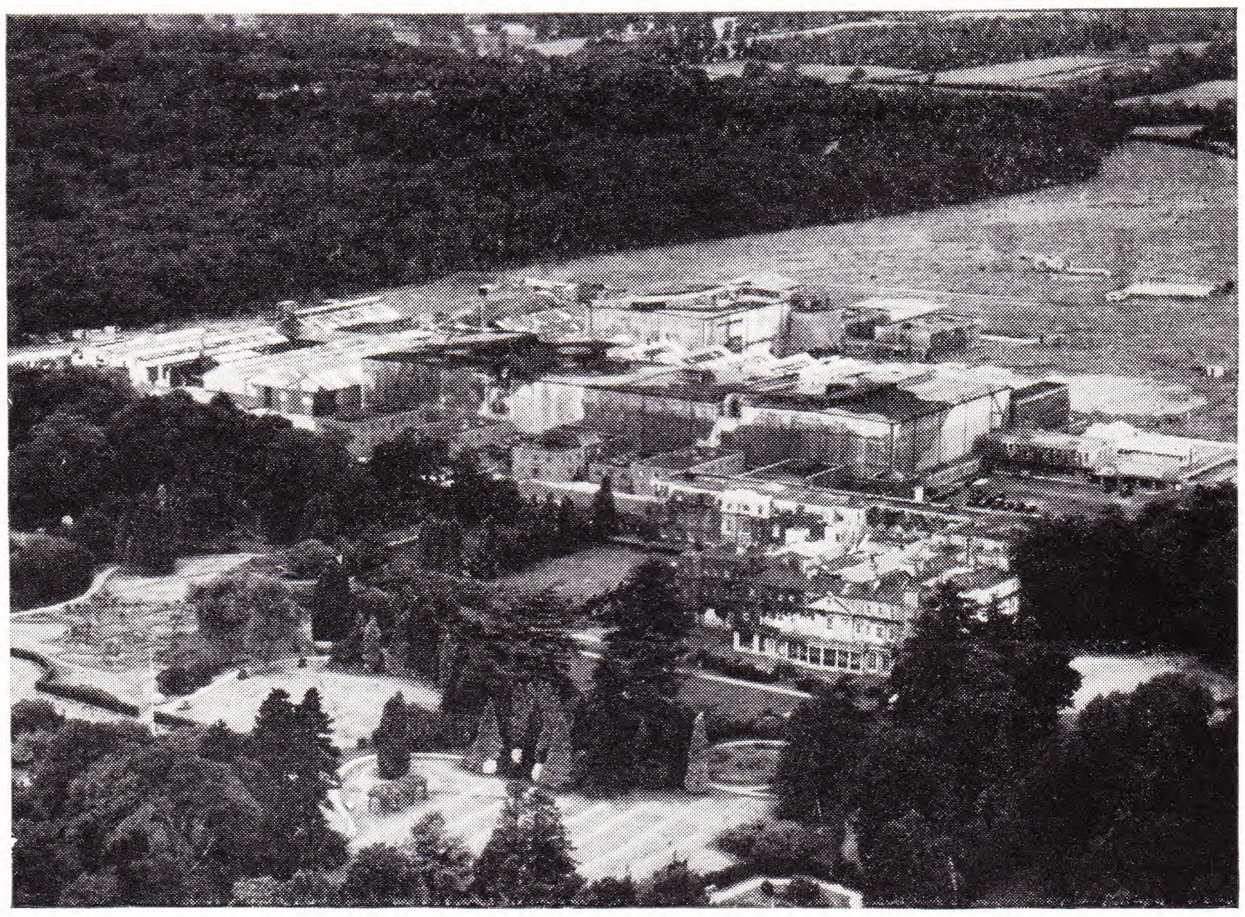


IT PUTS TELEVISION ARTISTS IN A NEW LIGHT

The Mercury Cadmium Discharge Lamp, described by J. B. SMYTH, BSc, AMIEE (Research Laboratories of the General Electric Co., Wembley, England), and K. V. McKENZIE (Exterior Lighting Department, the General Electric Co., Magnet House, Kingsway, W.C.2.

THE compact source discharge lamp, already finding many applications in film studios, has also been introduced into television production. This article describing the development of a lighting unit, utilising the new light source, for Alexandra Palace, is of interest to film studio technicians, for film and television production technique are closely related and the new unit may well find an application in motion picture making.

The very rapid development of television in this country and America has inevitably resulted in somewhat hasty adaptations of existing film studio and stage techniques to a new field. This is particularly noticeable in lighting, where equipment designed for film studio work has been the only available tool for the television lighting engineer. The conditions in the two fields, however, must not be identified, although at first sight they are similar.

The most important distinction is that television is a "live" show—the spectators view the artists while they are performing. There are no convenient intervals which occur between shots in film-making, intervals when the performers can rest, and when the ravages of perspiration, inevitable under high illumination, can be repaired by the make-up man.

This factor indicates the prime requirements of television light sources; they must be capable of continuous operation and should be cool to work under. The lamps must also be absolutely silent in operation.

Restricted Space

Secondly, television studios in England are at present small, and equipment must fit into restricted space; the power per cubic foot of fitting space must be high.

Thirdly, the spectral character of the light should give good monochrome rendering of coloured objects. Television cameras tend to be sensitive in the infra-red region, and objects, dark to the eye yet good reflectors of infra-red, have been known to appear light-coloured on the screen. In general, therefore, light sources should be deficient in infra-red.

Provided that monochrome rendering is satisfactory, the colour-rendering properties of the lamp do not matter, except that the artists naturally prefer to work in a pleasant light.

A last point, concerned more with the way the equipment is used rather than its design, is that television with existing equipment tends to emphasise the contrast of dark and light objects. Thus the lighting has to be rather flat, and equipment giving a wide spread of light rather than a concentrated beam is mostly used.

These requirements are a guide to the choice of light sources. At the present time, high illumination is still the rule, and, although more sensitive cameras are coming into use, it is probable that high-level lighting will be valuable for some time to come.

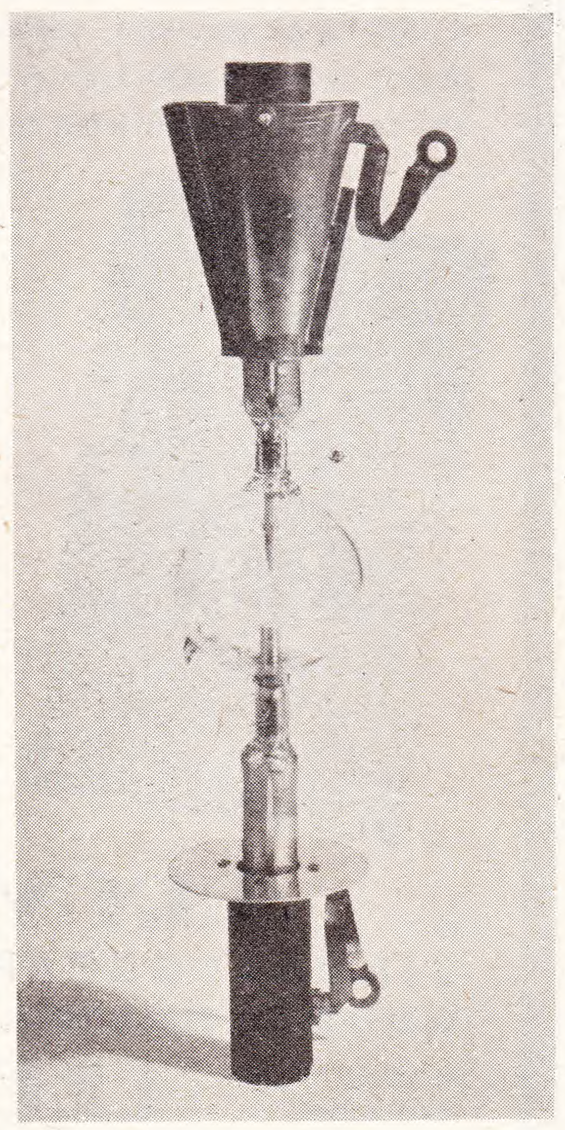
Generally speaking, therefore, an illumination of 300 lumens per square foot or more, reasonably cool to the artists, must be provided from fittings capable of running for about two hours without attention.

The carbon arc lamp, though efficient and relatively cool, cannot be used since carbons must be changed frequently; the need of attention to keep the carbons in trim, and the fumes emitted by the lamps are also against their use for television.

U.S Experience

In America the tubular fluorescent lamp has been used with some success, but the large number of lamps needed, and the consequent space problem, are inconvenient. Also, the light from so large a source is difficult to control.

Of the well-known lamps, therefore, only the tungsten filament lamp remains: mercury or sodium lamps as used for street-lighting do not give a sufficiently natural appearance to satisfy the artists. The tungsten lamp, in ratings up to 5 kW, is used in lens projectors of the kind developed for film studios, and in simple floodlights. This equipment has given good service on the whole, but the heating effect, inevitable with the large infra-red content of filament lamp radiation, is a cause of inconvenience and discomfort.



The 2½ kW. Compact source lamp

This leads to consideration of the compact source mercury cadmium discharge lamp. The efficiency of the lamps, about twice that of a tungsten projector lamp, is high, and the infra-red content of the light is low. It is, therefore, very suitable for television lighting, and it was not long before it was applied at Alexandra Palace in a unit designed and developed by the Research Laboratories of The General Electric Co., Ltd., in collaboration with the BBC television engineers.

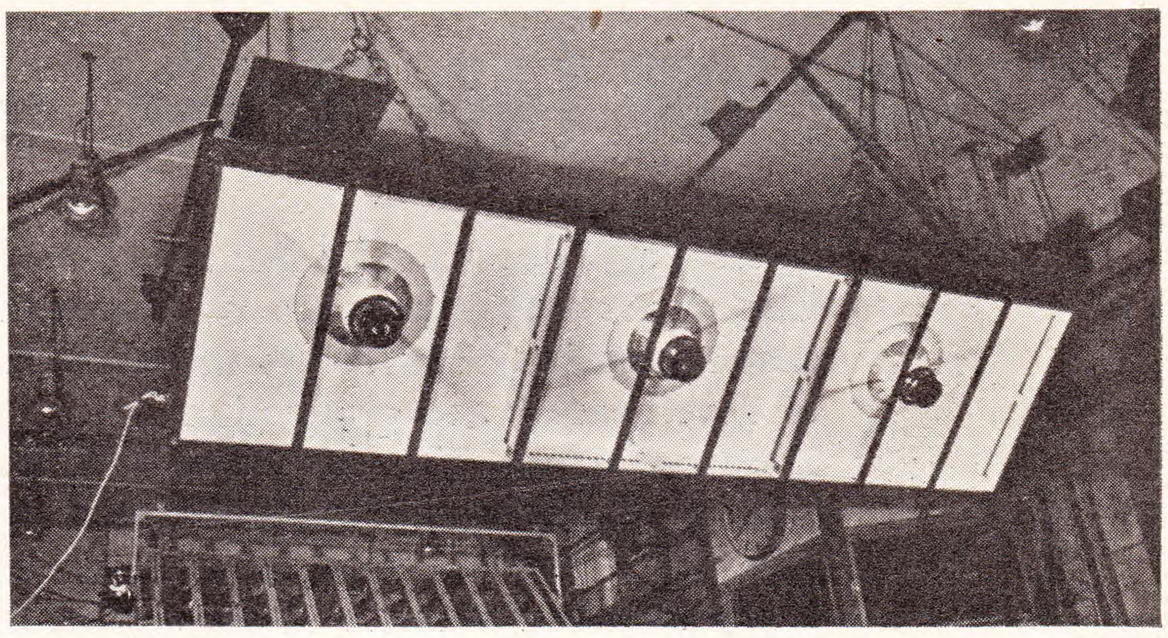
Early Experiments

Early experiments showed that, as a light source, the mercury cadmium lamp is satisfactory for television lighting. The light is steady and cool, and the rendering of colour into monochrome is appreciably better than with incandescent filament lamps.

A special fitting, of a type not found outside the television studios, was in use at Alexandra Palace. This is the "Softlight," an array of 48 100-watt tungsten lamps in enamelled reflectors, in a frame some 10 ft. by 4 ft., mounted just above the performers' heads. The object of this large-area light source is to reduce the depth of shadows, and to avoid shadows from microphone booms, and the like. The original equipment served this purpose well, but the possible illumination was limited by the radiant heat falling on the heads of the artists, and a further increase was not practicable.

At first sight the small, intense arc of the compact-source lamp seemed quite unsuitable for the reduction of shadows, but its potential thermal advantages were so great that work was started on a fitting providing effectively indirect lighting. These experiments proved successful.

The light from the lamp, a 2½-kW. double-ended type, is redirected by reflectors and a refractor on to the inside of a housing painted matt white, which is the effective light source. No appreciable direct light from the lamp reaches the working plane.



Installation of "Softlight" fitting at Alexandra Palace

The mouth of the fitting is closed by sheets of "Triplex" laminated safety glass, to prevent the escape of ultra-violet radiation or of hot pieces of quartz if a lamp should break.

For relamping or cleaning, the whole of the optical system surrounding the lamp can be removed in one assembly by the release of two nuts. The lamp and lamp-holders are then completely exposed.

Ventilation of the lamp and optical system is provided: slots at the side of the housing admit cool air, which is drawn up between the glassware and the lamp by the funnel-like optical system. In use, three of these fittings are mounted side by side, giving a source 15 ft. long by 4 ft. wide.

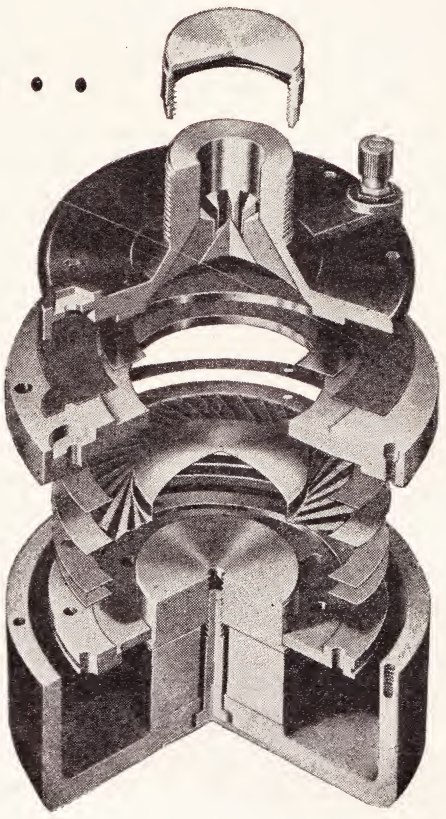
The illumination given by the new equipment is about 75 per cent. more than that from the old, for an increase of 50 per cent. in lamp power (7.5 kW. against 4.8 kW.), and the heating effect is negligible compared with other forms of lighting.

How It Operates

The lamp runs on direct current supplies of 105/120 volts. Each fitting is provided with its own separate ballast resistance and control panel. In the control panel is a 3-pin socket, into which the portable starting gear is plugged. This starting gear, used on each lamp in turn, provides, on the depression of a switch, a pulse of about 5,000 volts, which is enough to start a lamp through as much as 30 ft. of cable.

On the control panel is a selector switch, which is first rotated to the "start" position; the switch on the portable starting gear is then momentarily depressed. The arc then strikes, as shown by a red indicator lamp, and the selector switch is immediately released and moves automatically to the "run-up" position. After two minutes a release knob on the side of the control panel is pressed, and the selector switch moves automatically to the "run" position. The lamp then operates at 2½ kW.

One on top of the other . . .



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Pitchfords

Credit Lists

"Chiltern Hundreds" at Denham

HERE is the unit list for the Two Cities' production of "The Chiltern Hundreds," starring Cecil Parker, A. E. Matthews, David Tomlinson, Lana Morris, and Helen Backlin, at Denham.

Producer, George H. Brown; director, John Paddy Carstairs; production manager, Frank Green; first assistant director, Peter Bolton; second assistant director, Alec Gibb; third assistant director, Frank Ernst; continuity, Olga Brooks; production secretary, Gladys Goldsmith; runner, Roy Munns; art director, Ralph Brinton; assistant art director, Ted Marshall; set dresser, Colleen Browning; buyer, John Brown; draughtsmen, Bill Holmes, A. Henshaw, R. Aunger; lighting cameraman, Jack Hildyard; operator, Bob Thomson; focus assistant, Reg. Morris; clappers, Alec Thompson; stills, George Cannons; sound mixer, John Mitchell; boom operator, Dave Hildyard; assistant boom, Guss Lloyd; sound camera operator, Ken Horne; sound maintenance, Jack Goodwin; casting, Maude Spector; crowd casting, Bill Fleming; dress designer, Eleanor Abbey; wardrobe supervisor, Fred Pridmore; wardrobe mistress, Mrs. Jackson; first assistant, Bert Brown; second assistant, Doris Corby; make-up supervisor, Tony Sforzini; first assistant, Geoff Rodway; second assistant, Syd Turner; third assistant, Ernie Westo; hairdressing supervisor, Vivienne Walker; first assistant, Betty Dymore; second asistant, Norma Ridgeway; facilities, Jack Martin; construction manager, Jim Tillyer.

"The Lark" at Elstree

Producer, Michael Balcon; associate producer, Leslie Norman; production supervisor, Hal Mason; studio manager and technical supervisor, Baynham Honri; unit production manager, Ralph D. Hogg; director, Charles Frend; 1st assistant director, Norman Priggen; 2nd assistant director, Simon Kershaw; 3rd assistant director, John Assig; continuity, Phyllis Crocker; assistant continuity, Susan Carbutt; art director, William Kellner; assistant art director, Len Wills; set dresser, Andrew Lowe; lighting cameraman, Douglas Slocombe; camera operator, J. Seaholme; camera focus, P. Wilson; clappers and loading, M. Shepherd; stills, R. Penn; sound supervisor, S. Dalby; sound mixer, A. Bradburn; boom operator, A. Steadman; sound camera, E. Stockl; editor, M. Truman; assembly, S. Holt; first assistant editor, H. Aldous; trainee, J. A. Jympson; make-up, E. Taylor and H. Frampton; hairdressing, Barbara Barnard; wardrobe supervisor and costume designer, Anthony Mendelson; men's wardrobe, E. Farrer and B. Foster; women's wardrobe, L. Payne; chief electrician, Jack Ford; floor electrician, A. Spurgeon; property master, R. Tull; floor props, G. Bevan; construction manager, George Speller.

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CURRENT PRODUCTION CHART

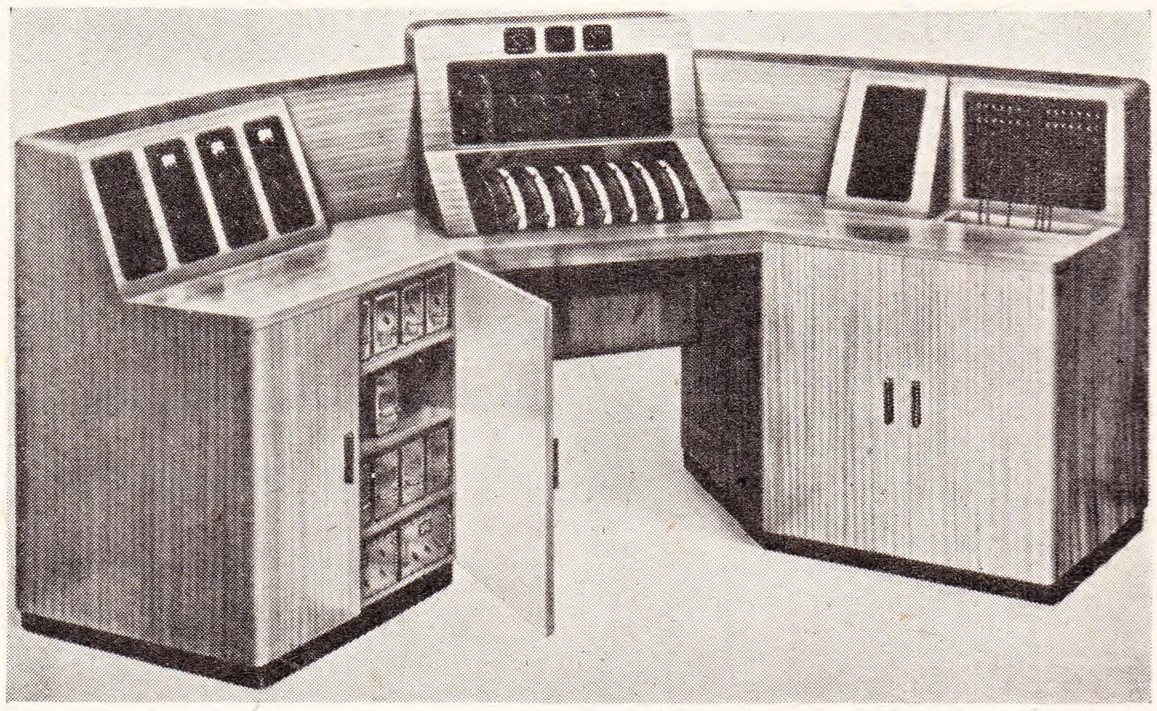
Studio & Subject.	Director.	Producer & Renter.	Progress.
BEACONSFIELD—Beaconsfield 555.			
Sponsored Subjects	———	Crown Film Unit: COI	——
BRIGHTON—Brighton 4477.			
No production	———	———	——
BUSHEY—Bushey Heath 1621-3			
Documentary	———	———	Starts April 4
CARLTON HILL—Maida Vale 1141			
No production	———	———	——
COOKHAM DEAN—Marlowe 873			
"Celia"	Francis Searle	Exclusive	Starts April 4
DENHAM—Denham 2345			
"Chiltern Hundreds"	John Paddy Carstairs	Two Cities: GFD	6 weeks
Additional scenes for "The Lost People" (originally titled "Cockpit")	———	Gainsborough: GFD	——
EALING—Ealing 6761-72			
"The Lark"	Charles Frend	Michael Balcon: GFD	Starts March 31
ELSTREE (ABPC)—Elstree 1600			
"No Place for Jennifer" (Unit No. 1)	Henry Cass	ABPC: AB-Pathe	4 weeks
"Landfall" (Sets building)	———	ABPC: AB-Pathe	——
GATE—Elstree 2080			
No production	———	———	——
HIGHBURY—Clissold 1230			
No production	———	———	——
ISLEWORTH—Hounslow 2323			
"The Angel with the Trumpet"	Anthony Bushell	London Films: British Lion	Starts April 4
ISLINGTON—Clerkenwell 1271			
No production	———	———	——
MANCHESTER—Rusholme 4025			
No production	———	———	——
MARYLEBONE—Paddington 2444-5			
No production	———	———	——
MERTON PARK—Liberty 4291			
Industrials and Documentaries	———	COI	——
M-G-M—BRITISH—Elstree 2000			
No production	———	———	——
NATIONAL—Elstree 1644			
No production	———	———	——
NETTLEFOLD—Walton-on-Thames 2414-7			
"Old Mother Riley's New Look"	John Harlow	Harry Reynolds: Renown	5 weeks
"Dark Secret"	Maclean Rogers	Nettlefold: Butcher's	2 weeks
PINEWOOD—Iver 700			
"Poets' Pub"	Fredrick Wilson	Aquila: GFD	5 weeks
RIVERSIDE—Riverside 3012			
"The Cord"	Daniel Birt	Valiant Films: British Lion	1st week
SHEPHERD'S BUSH—Shepherd's Bush 1210			
No production	———	———	——
SHEPPERTON—Chertsey 2211			
No production	———	———	——
SOUTHALL—Southall 3281			
"High Jinx in Mayfair"	Robert Jordan Hill	Advent Films: Adelphi	Starts April 11
TEDDINGTON—Kingston 2181-89			
"World Premiere" (Sets building)	Anthony Asquith	Anatole De Grunwald	——
TWICKENHAM—Popesgrove 4451			
No production	———	———	——
VIKING—Western 2516			
No production	———	———	——
WELWYN—Welwyn Garden 3241-7			
"No Place for Jennifer" (Unit No. 2)	Henry Cass	ABPC: AB-Pathe	4 weeks
WINDSOR—Chancery 8760, 5211-2			
No production	———	———	——

Awaiting Trade Show

"Adam and Evelyne" (Two Cities: GFD), "Adventures of Jane, The" (Keystone: Eros), "Adventures of P.C. 49" (Exclusive), "Christopher Columbus" (Gainsborough: GFD), "Conspirator" (M-G-M), "Dear Mr. Prohack" (Wessex: GFD), "Diamond City" (Gainsborough: GFD), "Dick Barton and the Silent Plague" (Hammer-Exclusive), "Don't Ever Leave Me" (Gainsborough: GFD), "Dr. Leroy's Secret" (Ambassador), "Elusive Pimpernel, The" (Archers: British Lion), "Hasty Heart, The" (ABPC: Warner), "Helter Skelter" (Gainsborough: GFD), "I Want to Get Married" (Betty Box: GFD), "Kind Hearts and Coronets" (Ealing: GFD), "Last Days of Dolwyn, The" (Korda: British Lion), "Madness of the Heart" (Richard Wainwright: GFD), "Maytime in Mayfair" (British Lion), "Melody Club" (Tempean: Eros), "Mr. Jolly's Journey" (John Baxter), "Murder at the Windmill" (Angel Prods., Grand National), "No Way Back" (Concanen: Eros), "Now Barabbas" (International Screen Plays: Warner), "Obsession" (Independent Sovereign: GFD), "One Good Turn" (Ambassador), "Perfect Woman, The" (George and Alfred Black), "Pilgrim's Way, The" (Baze: Exclusive), "Private Angelo" (Pilgrim), "Probation" (Data), "Saints and Sinners" (Arliss: British Lion), "Stop Press Girl" (Aquila: GFD), "Third Man, The" (London Films: British Lion), "Train of Events" (Michael Balcon: GFD), "Traveller's Joy" (Gainsborough: GFD), "Trottie True" (Two Cities GFD), "Under Capricorn" (Transatlantic: Warner), "Vengeance is Mine" (Cullimore-Arbeid: Eros), "Whisky Galore" (Ealing: GFD).

THE NEW GAUMONT-KALEE RE-RECORDING CONSOLE

Flexibility is Keynote of Construction



NO two film technicians have the same ideas on the design of their equipment. The sound recordist is as individual as any other worker in this respect, and it is probably in the field of re-recording that his personal preferences are most pronounced.

It was the practical experience in this connection of W. F. Elliott, one of the earliest sound recordists, that inspired the design of the new Gaumont-Kalee re-recording console. Flexibility in its widest sense is the keynote of its design and construction.

The console provides for six input channels, controlled by the faders and switches in the centre panel—the seventh fader is the master gain control of the output. But in its first installation the flexibility of design is put to a stiff test—instead of six ways, twelve are required. The solution is quite simple—duplicate the centre panel.

Of the six inputs, three are provided with one equaliser each, and the remaining three with two each, treble and bass. The resistive elements of the equalisers are wired directly to the switches at the rear of the panel. Since recordists have their own ideas on equalisation, the reactive elements which determine the frequency characteristics of the equalisation are quite separate, and are easily interchangeable. They fit on slides into the left-hand cupboard; each equaliser circuit is built into a neat metal box, with a plug at its end, and the whole can be simply withdrawn.

Three types of reactive circuits are provided, giving, respectively, a 90 c/s lift, a 3,400 c/s lift, and a treble attenuation with a lift at 7,000 c/s. The effect of this combination is that the response at any position of the equaliser switches is under the complete control of the recordist, and yet standard components only are employed. Since each equaliser has an insertion loss of 10 db., each key is provided with a corresponding compensating pad.

Furthermore, by means of a patching bay at the rear of the centre panel, interconnection of any combination of gain units and equalisers is possible. Flexibility of external connections is facilitated by the patching panel on the right-hand section, provided with pilot lights, to which microphones and dubbing heads can be connected as desired.

The problem of avoiding over-modulation is met in two ways. First is the peak-reading meter, which gives instantaneous reading of the recorded signal strength. Second is a so-called "overload distortion simulator." The effect of this circuit is twofold: first, immediately the track overloads the sound from the monitor speaker is unmistakably distorted; secondly, a neon signal lamp is flashed.

On the left-hand panel is a 1,000 c/s standard frequency generator, which is claimed to be accurate to within ½ c/s. Also, panels for microphone inputs. The input amplifiers, like the test oscillator, have a maximum output of 1 volt at 500 ohms.

Two other circuits are optional. First is a limiter-compressor unit, in which an improved circuit provides a meter reading of the amount of compression in use. Second is a background control unit which, for instance, enables a speech input to control automatically the level of background music.

The console is of handsome design, the case made of polished mahogany, 8 ft. in length. All components are mounted on metal chassis, every connection being immediately accessible. The right-hand cupboard serves to house spares and tools.

The console forms part of a complete range of re-recording equipment to be marketed by Gaumont-Kalee, and comprising double-film projector, dummy heads and interlock system with remote control.

R. H. C.

A REPERTORY POOL WOULD SLASH PRODUCTION COSTS

Says Bill Watts

THE publicity on the British film production slump is netting more editorial space than any ballyhoo campaign ever achieved.

The sooner the industry finds out what's wrong and puts it right the better for all of us, for nothing fails like failure. The most inveterate one-and-niner will soon be convinced that the films he still enjoys can't be as good as he thought, and he'll stay home to listen to the radio. Or buy a television set.

Responsible opinion has suggested that there are five principal reasons for the present uneconomic production costs of British pictures—overheads amounting to about £80,000 a picture; heavy studio rentals; increase in star salaries; inefficiency and lack of organisation; increased labour rates.

The Wrong System

As an agent I don't claim to be an expert on more than one of these categories. But it does so happen that I've been earning my living either as an actor or an agent exclusively in films since the days when sound was a novelty, and there is possibly something in the cliché that the onlooker sees a lot of the game.

As an agent I may be criticised for suggesting that artists should be paid less than they are, but I do feel the system which pays some one in a small supporting part £60 to £100 per day for many days, which could be played by a £20 per day artist, is wrong. If we can get these cast overheads down we are a long way towards getting the studio accounts out of the red, and then there will be a living for us all for many years to come instead of a lot of money for a few months and then nothing.

Maybe my plan is so simple that it hasn't hitherto been obvious. It is that the leading producing companies, either collectively or individually, should set up a repertory pool. I handle a number of young artists. I am quite certain that if I could go to them and say: "Look here, Mr. Blank thinks you've got some talent. He's prepared to take you into his repertory company at £30 per week, 52 weeks a year. In 12 months' time you may get a tenner a week raise or you may be chucked out. In the year ahead you'll have to work hard and there won't be many days when you're not on the set. Under the old régime, if you could have got that much work you'd be earning a figure to make a Hollywood star envious. But you'd never get so much work.

"On the other hand, you can stay as you are and take the occasional £50 a day, if any pictures are being made."

I know which they would choose.

There's an outfit called the BBC repertory company. You can turn on the radio almost every nght and hear its members earning their salaries . . . a Strindberg play on the Third, a thriller in Children's Hour, and a serial on the Light. Ask these artists if they would like to change for the occasional rich rewards of the film studio.

A repertory pool would provide producers with featured players they could use as little or as much as they liked. Even a small one would not bring the same faces before the camera any more than the present system does, and the costing department could knock a couple of zeros off the salary total most days of shooting.

Would it work? All I can say is that I know a producer who has just finished a small picture with a cast bill of £750 for the five weeks' shooting. Not one of the artists considered it was a cut-rate job from a personal viewpoint, for they knew how long they would be working.

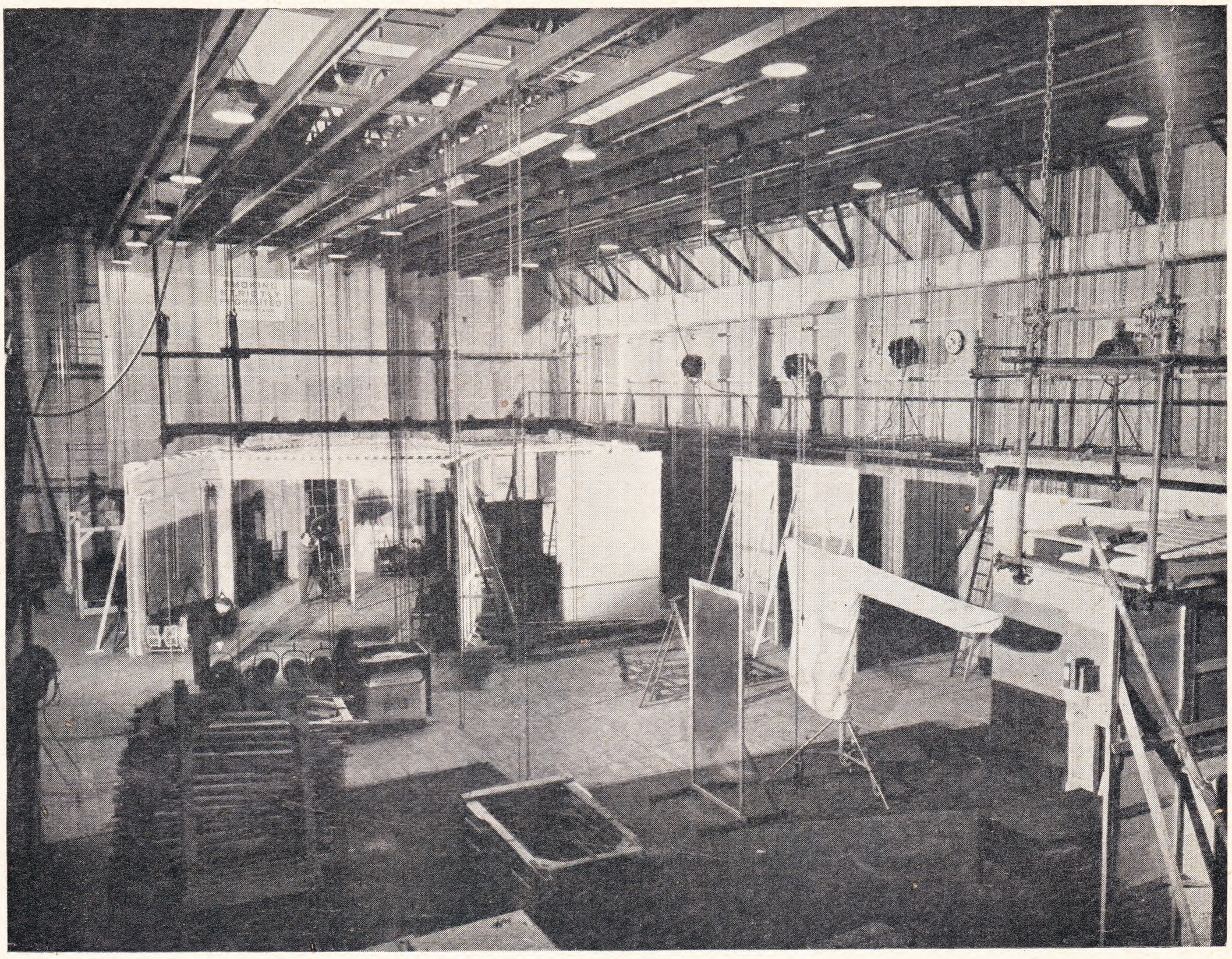
Star salaries.—It looks as if the Government advice to our worried executives is simply "reduce them." Personally, I fail to understand why those at the top insist on being paid larger sums in order to hand it over to Sir Stafford Cripps. There must, of course, be stars, and when they are the calibre of Anna Neagle or Michael Wilding, Margaret Lockwood or Ann Todd, etc., they're worth more than they'll ever get in this country. Anyway, their remuneration is only a comparatively small part of the total cost and any reductions would be largely a gesture.

Kill Insecurity

Increased labour rates.—We all know the stories of restrictive practices by the unions, but they can hardly be blamed for getting on the roundabout. The technicians see too much for there to be any likelihood of their believing that longer hours or a few pence an hour less would put everything right.

An agent maybe shouldn't dabble in these matters. He should get the best figure and take his 10 per cent., or so I'm told. It sounds a little smug to suggest another policy, but I believe we've all been waiting for the other fellow to find a solution long enough.

Everyone in the industry must have some ideas up his sleeve. Mine is to take the insecurity out of the supporting player's career give him (or her) a chance with regular work and plenty of it, and stop paying fancy prices for the occasional job.



A general view of the stage 120 ft. long by 60 ft. wide and 30 ft. high. The set in the background was one of five erected simultaneously for continuous shooting on a three-reeler for the Rayon industry

A SMALL STUDIO BIG IN IDEAS

Crown Film Unit's Reconstruction of Beaconsfield Studios
"A Workmanlike Job, Stripped of All Unnecessary Frills"

WHEN Herbert Morrison, Lord President of the Council, opened the Crown Film Unit's reconstructed Beaconsfield studios he described the plant as a "Workmanlike job, stripped of all unnecessary frills." The aptness of that description is apparent after a close-up study of the buildings.

To the visitor who has heard so much about wasteful expenditure the reconstructed studios, which were formerly owned by British Lion, will come as a surprise. They are an excellent example of wise investment—money has been spent on the first essential to film-making, equipment. All other considerations are well in the background.

Perhaps the serious observer will raise what appears at first to be a justified criticism of the studios—there is only one sound stage. In these days when high-speed shooting is required it might be argued that two stages are desirable, even essential, especially when money is being spent on the construction of an entirely new plant.

This point, however, must be considered along with Crown Film Unit's production programme. The bulk of its output is of the two-to-three-reeler type of film, although its over-all range of subjects starts from the one-minute flash and ends at the full-length feature. Another point: many of Crown's films are made almost entirely on location.

The one stage, then, 120 ft. long x 60 ft. wide and 30 ft. high, was considered sufficient for present-day programmes. A second stage is planned, but, in the meanwhile, Crown is using the one stage to best advantage by doubling up sets on the floor. The studio scenes of a three-reeler film based on the Rayon industry were shot in colour in five days. Five major sets were required for the picture, and these were lined up on the stage so that when filming finished on one, the camera crew switched to another with a break of only minutes.

Features demanding more elaborate, and probably larger, sets can be tackled by adapting the principle of building in the special construction shop while shooting is being carried out on the stage-assembled scene and by night shift working.

Although close to the sound stage, there is no risk of interference by noise from the construction bay. Crown technicians have designed and built their own remote-control cabinet, from which the shutting and opening of all doors may be controlled and alarm bells sounded. It also houses the intercommunication system.

The drop-doors at the north and south ends of the stage are the first of their type to be fitted to a studio. Along the drop edge and covered in rubber are series of micro switches which halt the doors' movement at a slight touch.

The mobile work of Crown Film Unit influenced another important feature of the design of the studios. Two mobile sound channels can be patched through for studio work by connecting to a panel in the sound garage. Alternatively, they can be linked to the stage at any point around the building.

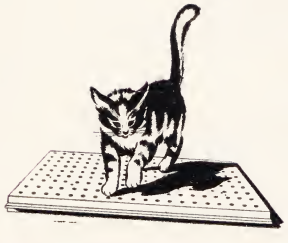
It took two and a half years to reconstruct the premises. Throughout this time Crown was producing films for the Central Office of Information by using outbuildings, such as the power-house and carpenters' shop, in conjunction with mobile recording vans.

Continued on page v.

For fifty years the name of Cullum has been associated with the acoustic requirements of the building industry. Today we are the largest contractors in this country specialising in acoustic correction and the provision of noise-absorbing ceilings for offices and other types of rooms.

We specialise also in the acoustic treatment and soundproofing of film studios with Rock Wool, and the acoustic treatment of cinemas with Acousti-Celotex Tiles. From analysis to installation, we provide a complete acoustic service.

Our contract at Beaconsfield included the vertical sliding doors at each end of the Main Stage (designed to studio safety and other requirements), sound locks, roof insulation and Rock Wool acoustic treatment throughout.



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A SMALL STUDIO BIG IN IDEAS

Continued

Only a small section of the administration block remains of the original British Lion studio, although certain sections of the plant have been adapted and enlarged. The sound stage shell has been heightened and a larger tank provided, but the sound block is entirely new.

From the small block of offices flanking the main entrance access is direct to the sound stage. Three gantries running the length of the stage are crossed by two more giving access to those around the walls. Suspended cradle system for spot-lighting is employed. At each end of the stage at gantry level are Crompton Parkinson switchboards. They each take 230-volt 3-wire DC supply capable of accommodating loads of up to 500 kw (1,000 kw total)—sufficient for colour work.

Lighting gear to work off these feeder panels was supplied by Mole Richardson. It is supplementary to the equipment already supplied by that firm to Crown and was chosen by the unit for its portability and robust construction. The new installation includes:—6 type 170—150 amp. HI arcs; 6 type 90—120 amp. HI arcs; 3 type 65—65 amp. HI arcs; 2 type 40 Duarcs; 15 type 414—5 kw. senior solar spots; 60 type 410—2 kw. junior solar spots; 6 type 404— midget spots; 6 type 45 rifles; 6 type 250—5 kw. skypans; 25 type 21 single-light broadsides; 7 type 305—5 light strips 1 200-amp. portable dimmer; and 1 silent wind machine.

There is also in use a Mole Richardson remote-control distribution truck and sets of scissor arcs. Spider and distribution boxes and head extensions are installed to cover all equipment housed.

Sound Proofing

Acoustical treatment of the studios was in the hands of Horace W. Cullum and Co. The company's rock wool system has been applied to the walls and ceiling of the main sound stage. It is capable of variations in the proportion of high-frequency absorption, if it is found necessary to adjust the reverberation period either up or down.

The semi-rigid slabs of rock wool possess very high absorption qualities over the bands of frequencies where it is normally most necessary, and the binder maintains the fibres at their chosen density in order to avoid any subsequent variations.

The surfaces treated present a clean, smooth, continuous surface and the steel mesh stretched in both directions gives a strong, durable finish. The cotton fabric immediately behind the steel mesh is selected for its transparency to the audible frequencies which it is desired to absorb. It is rot-proofed and also stretched without visible joints over the whole area.

The wood fixings in this construction are reduced to a minimum consistent with efficiency and strength and are embedded in the rock wool treatment. They neither project on the surface nor do they touch the wall.

The firm also supplied Acoustical Celotex tiles for application in the cutting theatre and horn chamber, projection, monitor and commentators' rooms, and provided special lobby doors and large main sound-resisting doors of high efficiency. In the work the company collaborated closely with the architects, the main contractors and with RCA who were responsible for the sound installation.

On the floor three Mitchell cameras and five Sinclairs are available. One boom is reserved for interior shooting.

One side of Crown's technical make-up which is not yet complete is the back projection installation. Within a matter of months, however, a comprehensive range of gear for this technique will be in full working order.

From the sound stage at the south end access is gained to the carpenters' shop. A large dock leads off to the roadway surrounding the block. Also within easy reach of the stage is the paint shop and plasterers' shop.

One of the most interesting sections of Beaconsfield studios is the entirely new sound block. It consists of re-recording theatre, cutting-rooms and rewind rooms. In the re-recording theatre the acoustical treatment contractor, Horace W. Cullum, combined the rock wool treatment with the system of poly-cylindrical diffusion, with panels and fixings varied to distribute resonances over the frequency band.

Re-Recording Theatre

This theatre, in common with the entire sound block, was equipped by RCA Photophone and houses the company's recently completed console.

A total of three recording channels will ultimately be available. These include a static PM.38E channel, not yet completed, a similar mobile channel in a Commer truck, and a third comparatively lightweight PM.45 channel which is normally mounted in a utility type vehicle, but which is removable for transportation to otherwise inaccessible locations.

The re-recording console provides eight-way mixing, each input having variable compensation. Associated with this is a separate compression rack, through which single line compression may be applied on any input, with the normal over-all compression on the recording channel available as well, if required.

An important feature is the patching bay adjacent to the console. Connections to all major units are brought through this, which gives great flexibility of circuit arrangement and simplifies testing routines. All channels may be linked as required.

A reverberation chamber is located at one end of the building. Though occupying very little floor space, it is high and, in practice, has been found to have a sufficiently long period to provide any reverberation effect that may be required.

The theatre projection box is equipped with two Simplex projectors, operating with Peerless arcs, and an LG.230R reproducer installation with a total of five soundheads. This equipment includes facilities for measuring cross-modulated test prints for checking processing conditions. The cutting theatre in the main block is equipped also with RCA reproducer apparatus and two Ross projectors.

The treatment of the recording theatre is in accordance with the latest practices for optimum acoustics for music recording. The capacity of the theatre is 20,000 cub. ft.

An important contribution to this result has been the incorporation of design principles recommended by Mike Rettinger, one of RCA's foremost acoustic designers in the United States. Free use is made of plywood cylindrical diffusers on the walls and ceiling, which give very uniform distribution of sound. Ken Cameron, chief sound engineer, has found this lightens his work considerably, and it contributes to uniformity in the finished product.

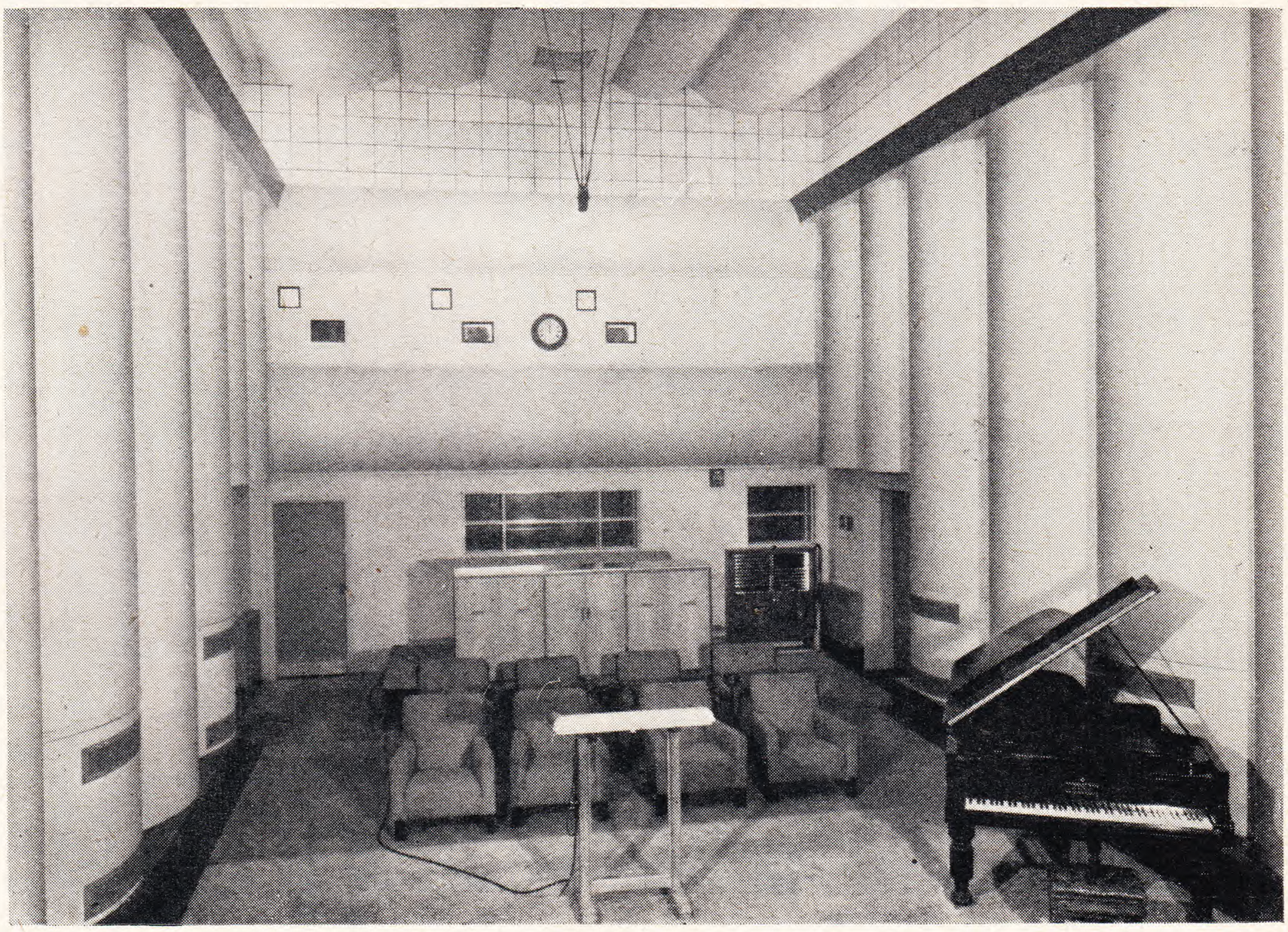
Commentary Room

Commentary recordings have also been made in the theatre, although a small commentary room is available. Adjacent to the theatre is a monitor room with a good view into the theatre for music mixing.

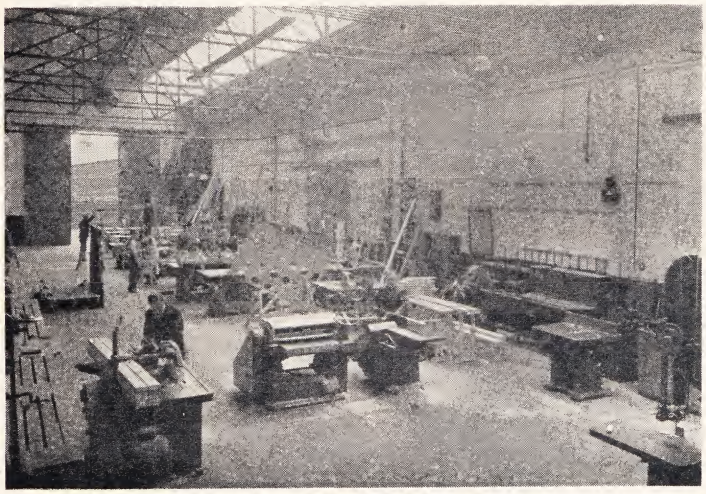
The disc-recording equipment installed is of the standard synchronous studio type supplied by MSS Recording Co. It has a heavy 16-in. turntable running at 77.92 r.p.m. As originally supplied, the turntable was driven through a worm reduction gear by a 1,500-r.p.m. synchronous three-phase motor, but the machine has since been modified so that this motor is now interchangeable with a Selsyn interlock motor.

The tracking mechanism is

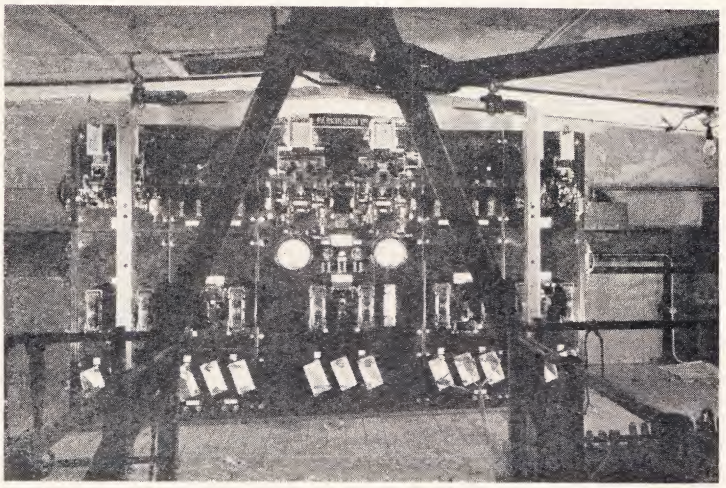
Continued on page vi.



A feature of the recording theatre, equipped by RCA, is the three recording channels which operate in conjunction with an 8-way console on the dais. The acoustic treatment of this theatre, carried out by W. Cullum, combines the rock wool treatment with the system of poly-cylindrical diffusion



Fitted out to deal with major construction work, the carpenters' shop, adjoining the sound stage, has direct opening onto the circular roadway



One of the pair of Crompton Parkinson panels situated at gantry level. They feed the stage with current from the 500-kw powerhouse output

driven through a friction drive which enables the pitch to be varied up to a maximum of about 130 grooves per inch and allows the machine to be set up to cut outside/in or inside/out.

The electromagnetic cutting head provides for a flat over-all response to 10,000 c.p.s. within plus or minus 2 db., and is supported on a simple beam-type arm which gives stability.

A feature of Beaconsfield's recording gear that is rarely found in film studios is the 16-mm. installation. A Bell and Howell projector fitted with an arc is coupled to the main RCA equipment. On this equipment, Crown records direct on the smaller gauge for a large proportion of its product, which has a major secondary run in the non-theatrical field. The 16-mm. side plays such an important rôle in the distribution of the unit's product that every film is provided with a special re-recorded track.

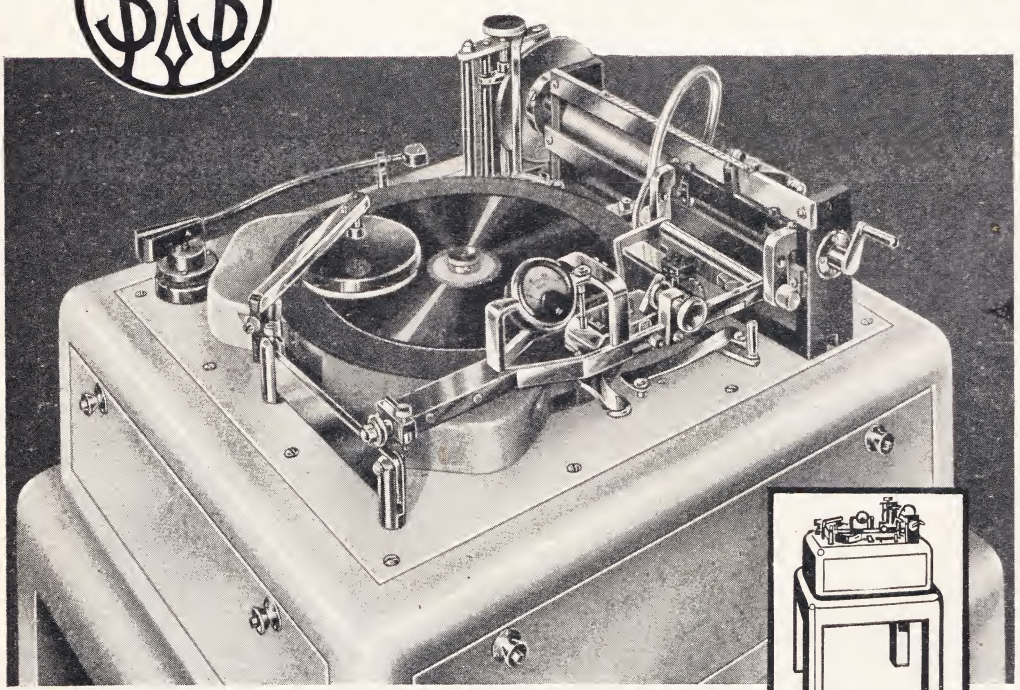
Foreign versions of sound tracks are another of the unit's activities. Nearly 1,000 reels of tracks were made last year.

Power for the studios is supplied by a 500-kw. generator. This is to be stepped-up in the near future with the installation of a second machine giving a similar output. In addition, there are five mobile generators each giving 23 kw. for mobile work.

In common with the general trend throughout the studios, the dressing-rooms are equipped on utility lines. There are two large apartments for crowds and six private cubicles. There are two make-up rooms.

SYNCHRONOUS STUDIO RECORDER

as supplied to the CROWN FILM UNIT

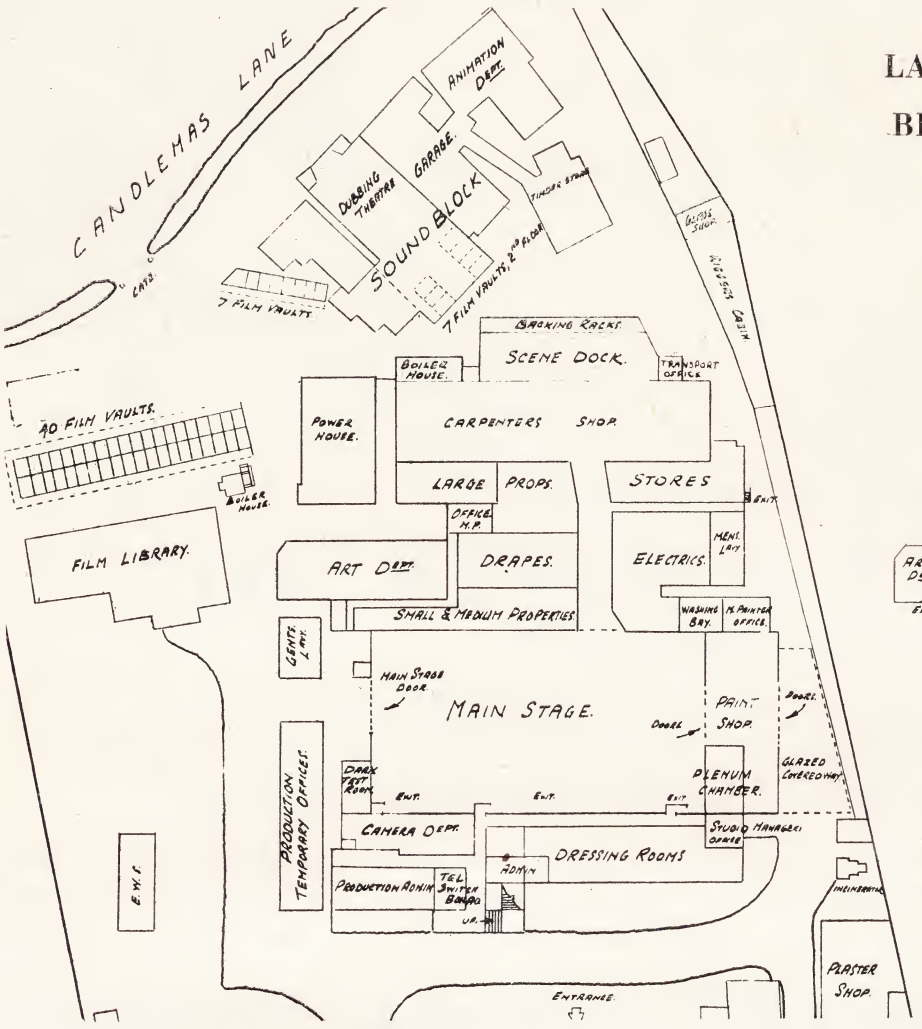


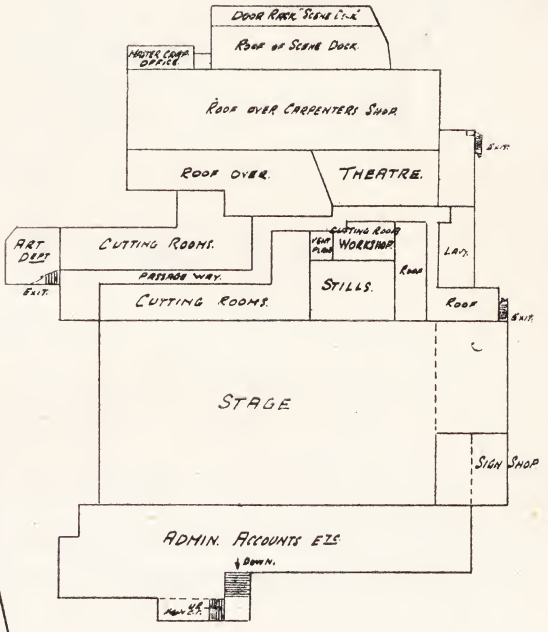
Type CB/S

The CB/S Recording Machine is produced by skilled engineers with long experience in the manufacture of direct recording equipment, and is considered to be one of the finest studio recorders available. Chosen by the Crown Film Unit for installation in their Beaconsfield Studios, the CB/S has a synchronous drive at 77.92 r.p.m. for film sound recording on disc, and back-ground noise has been reduced to a minimum. Will record on discs of all sizes up to 17¼" and is available for immediate delivery.

M.S.S. RECORDING CO. LTD • POYLE CLOSE • COLNBROOK • BUCKINGHAMSHIRE

LAYOUT OF THE BEACONSFIELD STUDIOS





FILM CLEANING BROUGHT UP TO DATE

Features of the Premier Machine

THE latest model Premier film cleaner is fitted with large-capacity spool boxes to take the new standard 2,000-ft. reels.

It is also fitted with highly polished chromium-plated rollers so that it may be used to remove dirt and grease from used negatives, as well as positive prints, without fear of damage to the stock. The operating speed is 1,000 ft. in ten minutes.

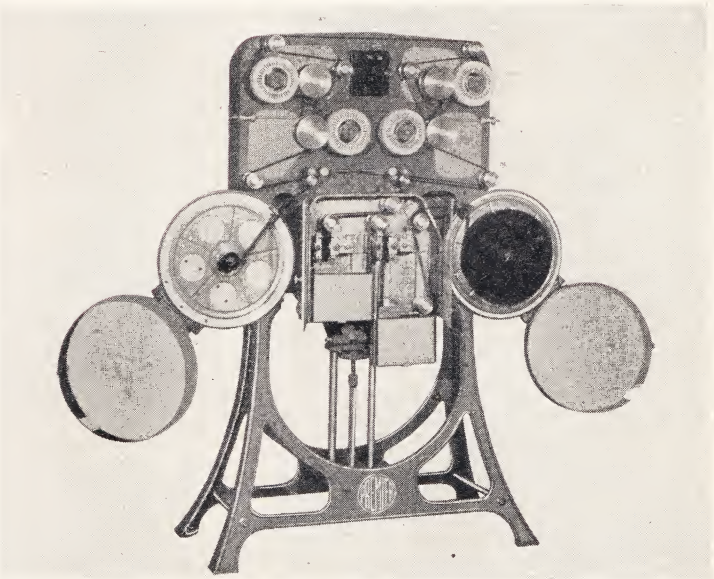
Those are some of the features of the new machine. Here is the cleaning cycle. From the right-hand spool box the film is immersed in the cleaning solution of the first tank. It then passes between a pair of rubber pressure pads, which remove the surface dirt and liquid, and thence into the second cleaning tank and through a second pair of rubber pressure pads.

The film then passes over a guide roller to the first pair of cleaning brushes and on to a second pair of brushes for final cleaning and polishing.

"Trichlorethylene," a non-inflammable solution, has been found to be the most suitable and economical cleaning agent. Loss through evaporation is small and the solution can be filtered and used time and time again.

The machine is friction driven, which eliminates the possibility of damage to film perforations through drag, and is fitted with an automatic cut-out, which switches off the motor at the end of the run or if a film join comes apart in the process of cleaning.

The Premier cleaner is made by Robert Rigby, Ltd.



Provision is made for the standard 2,000-ft. reels in the new film cleaner manufactured by Robert Rigby

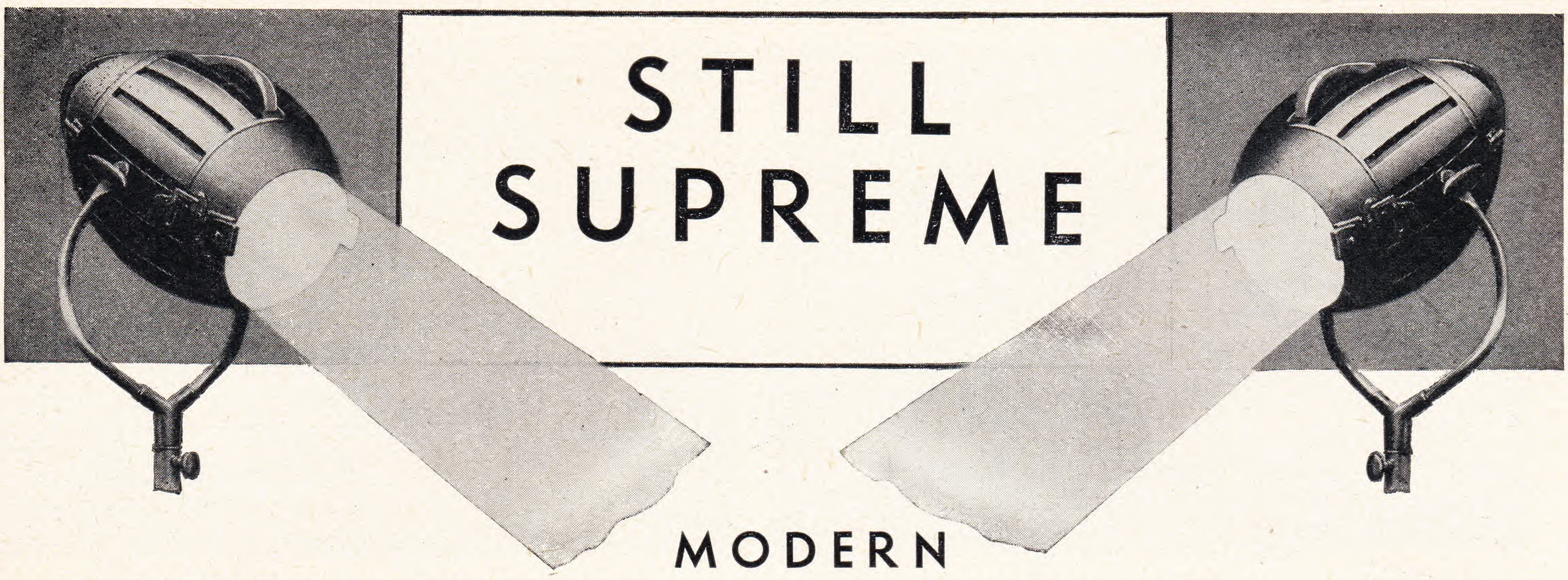
---

"Dark Secret" Music to be Broadcast

Music from the Butcher-Nettlefold film, "Dark Secret," is to be featured by director of music George Melachrino in his broadcast on June 26. The picture opens its general release on 500 ABC kinemas a week later.

The full Melachrino orchestra will record the specially-written music at Nettlefold.

HMV is putting out a Melachrino recording of the music, which is to be featured three times in the film.



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ESCAPE TO REALITY

"Chance of a Lifetime" Gives a New Slant on Factual Filming

by HARRY WHITE

ABOUT five miles outside of Stroud there is a factory from which two widely differing lines of product are emerging. Woollen goods are despatched from one side five days a week and from another, seven days a week, come sequences of film which, when complete, will put the focus on the modern trend in industrial life—management by workers. The film is "Chance of a Lifetime," which producer-director-star Bernard Miles is making for Pilgrim Pictures.

This is not location work in the strict sense because the entire film is being shot in and around the factory. A collection of buildings, old and new, in full working capacity is, in fact, the unit's studio—one large, authentic composite set.

Location work always brings forward a crop of peculiar problems, so it was to be expected that a project of this scale would emerge as one long challenge to the technical abilities of the men who were engaged upon it. It was to see for myself just how this band of technicians was coping with the unexpected that I accepted an invitation from Bernard Miles to visit his unit at work.

Work is, in this case, the operative word, for every day, Saturdays and Sundays included, every member puts in something like eleven hours. Then there are nights—many sequences have to be shot starting after 10 p.m.

Despite these lengthy hours, however, the Pilgrim unit at Stroud is the happiest I have seen for many a month. Maybe, the reason is to be found in the refreshingly different conditions under which they are film making.

The reasons for making the picture in a factory and not in a studio are many and varied. But the governing factor was the need for true factory process scenes with crowd and feature players. It would have required an army of technical advisers to reconstruct in a studio the conveyor belt plant of a factory.

First difficulties on the production side came the way of the art department. At Stroud the buildings conformed in the main to the requirements of the script, but several alterations and additions were necessary. Art director Donald Russell and his assistant, Michael Stringer, told me that major additions were prefabricated at the Gate studio and railed down to the studio. From the delivery of these extra sets, they were on their own—all construction work taking place on the spot with little in the way of facilities.

An existing roof was re-hipped to give camera view from the office of the factory down to the dummy entrance. Exterior additions were made by taking plaster casts of brick walls to ensure authenticity. Their verdict on the job, "extremely interesting."

Perhaps the most difficult task on a project of this type is that of lighting. A great deal of the action takes place in offices and works during the day time, and elementary continuity demands the matching of lighting coming in from the windows. In a studio it is simple: at the mercy of the British climate it is complex.

Lighting cameraman Jack Cross has devised a system of gelatine filters for all outside windows. From his static quantity of light required for interior shooting he determines the strength required to be admitted from the windows—light or heavy filters do the rest. But a constant watch-out has to be kept for changes in sunlight strength.

Sound is another item which is being tackled on lines entirely different from studio working. All dialogue is being recorded live, post syncing is to be kept to a minimum. Terry Cotter, sound recordist, has wide experience of this technique—he was for some years on newsreel work.

Although a red light warning system has been introduced in and around the buildings to minimise unnecessary noise during shooting, the track will not have the deadness of studio sound. Natural noises-off are being left on the track.

Every day the unit meets up with some new problem to overcome. How to get sound and camera into the confined space of a top-floor office; how to light a canteen which allows no elbow space for arcs; how to ensure the continuity of dress with the factory workers who turn crowd artists at week-ends.

This week-end work—it is essential because only when the factory is not working can the unit have access to production lines—is welcomed by the technicians. "One of the easiest crowds I've handled" is how assistant director Phil Shipway described the workers.

Back in our hotel after watching takes on the film, Bernard Miles gave the reason for this unexpected verdict. "Everyone at heart is an actor," he said. "These people love to help."

Then the conversation switched to the considerations of film-making outside a studio. Asso-

Continued on page xi

Factory workers are marshalled into position for crowd scenes on CHANCE OF A LIFETIME which Pilgrim Pictures is making at Stroud. Among the unit members preparing the next shot are producer-director-star Bernard Miles; assistant director Phil Shipway; third assistant director Norman Harris; lighting cameraman Eric Cross; Ray Sturgess, camera operator; Jack Lowin, focus; and Mary Leslie, wardrobe

The only studio connection for the art department on CHANCE OF A LIFETIME consisted of prefabricated additions to the Stroud factory area. With these in position, all construction work has to be carried out on the spot. Cutting of roadway through a concrete wall under the prefabricated archway in the background came as part of a day's work

BRITISH STUDIO NEWS

First Minter-Sutro Subject Starts in Italy

£180,000 BUDGET: TOP LINE PLAYERS

A NEW company, Orlux Films, has been formed to make three pictures a year for Renown release. This is the outcome of the production tie-up reached between George Minter, of the renting company, and John Sutro, producer of "The Glass Mountain"—Sutro will be executive producer for the full line-up of the new company.

The first of the initial group of pictures is to go before the cameras on location in Italy within the next week. It is "Her Favourite Husband," a light comedy starring Jean Kent, Robert Beatty, Gordon Harker and Margaret Rutherford. Mario Soldati is to direct, with Colin Lesslie as producer.

The picture has been allocated a budget of £180,000 and a tie-up with Lux Films, of Rome, has been effected to ensure world-wide release.

Walton-on-Thames studios are under consideration to accommodate the unit when it returns from location work in Rome and Naples.

Jean Kent, Margaret Rutherford, Gordon Harker and Robert Beatty left for Italy early this week, and other members of the cast to join them shortly are Rona Anderson, Walter Crisham, Max Adrian, Norman Shelley, Michael Balfour, Jack MacNaughton, Peter Illing and Danny Green.

The story of "Her Favourite Husband" concerns two Londoners, played by Gordon Harker and Margaret Rutherford, who visit their daughter in Rome, where she is married to a bank clerk, and of the complications which follow.

Noel Langley has written the screenplay.

The board of directors of the newly formed Orlux Films consists of John R. Sutro, E. L. H. Cosby, C. J. Donada, A. M. C. Gelardi, Colin Lesslie and J. W. Wishart, FCA.

The next subject listed for production by Orlux is "A Star Danced," a screen version of Gertrude Lawrence's autobiography.

Meanwhile, negotiations are in hand by George Minter and Anatole de Grunwald for the start of production within a month of "Personal Appearance."

"TREASURE ISLAND" STARTS JULY 4

Denham studios are to house Walt Disney's first all-live action picture, "Treasure Island." Shooting, with Hyron Haskin directing and Perce Pearce producing, is due to start on July 4—a fortnight after set construction is scheduled to commence.

Both the director and producer of the RKO-Walt Disney British production are in this country finalising arrangements.

King Studies South African Facilities

Latest addition to the film people to visit South Africa in search of material is the independent producer George King, writes the KINE.'s Cape Town correspondent. King has, as yet, no set plans but is touring the country to survey possibilities.

He has two pictures he might consider making—the life stories of Barny Barnato and of Edgar Wallace. Mr. King considers that the shipment of complete units—including stars—might be a possibility.

Meanwhile, continues the KINE.'s correspondent, Roy Boulting, who is to direct a film for London Films, is on his way back to England. James Hodson, script writer on the picture, "Spearhead," dealing with the Great Trek, is remaining in the Union to prepare material obtained. Shooting has been tentatively scheduled to start in September.

Boulting hopes to use South African actors and actresses as far as possible and has been in touch with repertory and other theatrical companies. Film tests of people he has selected have been made in Johannesburg.

First Castings for Police Story

First casting assignments have been made for the next Michael Balcon production, to take the floor at Ealing—"The Blue Lamp."

Jack Warner is to star in the story of the London police and Scotland Yard, based on an original by Jan Read and scripted by T. E. B. Clarke. With him will be Jimmy Hanley, as a young policeman, and Dirk Bogarde and Patric Doonan as the two crooks.

Production is to start early in June with Basil Dearden directing and Michael Relph as associate producer.

Manchester ACT Expects Drop in Membership

"All units have progressed steadily during the past month, though newsreel members have found things a bit quiet," states Doug. Hardy, of Manchester branch ACT. He adds:—

"Shooting on the Jewel and Warriss film at Manchester studios is about on schedule and may be completed by the next branch meeting, so we may suffer a temporary drop in membership.

Wilson Moves to Florence

Donald Wilson, heading the Two Cities-Aquila unit shooting "The Prodigy," has finished filming in Milan and moved to Florence.

The unit consists of Richard Leeman, assistant director; John Godar, focus operator; Philip Pendery, clappers; Stan Goddard, location cashier; Reg Hall, grips; Bill Evans, props; and John Hilling, wardrobe.

Unit Assignments

Denham

"Give Us This Day"

Producers, Rod. E. Geiger, N. A. Bronsten; director, Edward Dmytryk; dialogue director, Phil Brown; production supervisor, Ken Horne; production assistant, Bob Foord; production secretary, Doris Prince; Mr. Geiger's secretary, Daphne Timewell; Mr. Bronsten's secretary, Loni Adam; first assistant director, George Mills; second assistant director, R. L. M. Davidson; third assistant director, Douglas Hermes; continuity, Barbara Cole; assistant continuity, Pauline Kernick; lighting cameraman, C. Pennington-Richards; camera operator, Robert Day; focus, Michael Bailey; clappers, Norman Arnold; sound mixer, J. Cook; boom operator, Fred Ryan; assistant boom operator, Leslie Rawlins; sound camera operator, Fred Goodes; sound maintenance, Jim Johnson; art director, Alex Vetchinsky; assistant art director, Bill Bowden; art decorator, Arthur Taksen; chief draughtsman, Don Lee; buyer, Norman Lloyd; editor, John Guthridge; assistant editor, Geoffrey Muller; second assistant editor, Richard Sidwell; portrait floor stills, Frank Beddingham; publicity director, John Ware; publicity secretary, Eileen Courtney; casting, Maude Spector; crowd casting, Bill Fleming chief make-up, Toni Sforzini; assistant make-up, Ernest Westo; chief hairdresser, Vivienn Walker; assistant hairdresser, Joyce Wood; assistant hairdresser, Gladys Atkinson; wardrobe buyer, Jim Brierley; wardrobe supervisor, Fred Pridmore; wardrobe assistant, Mrs. Oakley; wardrobe assistant, Fred Birch; chief construction manager, Bill Searle; construction manager, Harry Phipps; stand-by stagehand, William Hall; stand-by carpenter, Samuel Chalter; property master, Bill Nason; props chargehand, Jim Hayden; dressing chargehand, Pat Ward; grips, S. C. Trigg; electrician chargehand, James Hamilton; stand-by plasterer, E. J. Tanner; stand-by painter, H. Lewis.

Nettlefold

"Miss Pilgrim's Progress"

Producer, Daniel M. Angel; director, Val Guest; production manager, Anthony Nelson Keys; first assistant director, George Fowler; second assistant director, Douglas Twiddy; third assistant, Peter Price; director of photography, Bert Mason; camera operator, Ken Talbot; focus operator, Gerald Fisher; loader, Irving Morris; grips, Gerry Elliott; clappers, W. Smith; camera maintenance, Ron Ford; stills cameraman, Norman Hargood; continuity, Shirley Barnes; art director, Major G. Paterson; sound camera operator, Paddy Cunningham; mixer, Pip Pearson; boom operator, Don Wortham; make-up artist, Freddie Williamson; hairdresser, Ivy Emmerton; wardrobe mistress, Molly Arbuthnott; wardrobe assistant and dresser, E. Attryde; wardrobe assistant, Harry Jordan; props, Albert Stimson, Jack Honeycombe, Johnny Goddard; props. buyer, Charles Hasler; editor, Douglas Myers; assistant editor, Adam Dawson; second assistant editor, Terence Laurie; location manager, Billy Asher; drapes, Frank Owen; chief electrician, George Luker; floor electrician, B. Mortimer; electricians, F. Smith, B. Powell, F. Falls, J. Leversley, G. Martin, B. Stanton; publicity director, Jack Daw-

"They Were Not Divided"

Shooting is in progress in the vicinity of the notorious Belsen camp and on battlefield sites close to Luneberg Heath for "They Were Not Divided," Two Cities' film of the Guards Armoured Division from D-day to the Ardennes victory.

Full co-operation has been given by the Army of Occupation.

ESCAPE TO REALITY

Continued from page ix

ciate producer John Palmer and production manager Gregory Baird Smith could not say at this stage if all-location work was less costly than studio shooting. Against the saving on rentals, there were major items such as transport, additional fees to technicians and accommodation to be taken into consideration.

Both were agreed, however, that without union backing the job could never have been attempted. With Bert Predgeon, NATKE steward, and Arthur Hemming, ETU representative, they were able to sail along without labour squabbles.

A refreshing way of making a film? Yes, but that isn't the only product of the "Chance of a Lifetime" project. The experiences of members of the unit are bringing forth a crop of suggestions for serious study by the industry as a whole. Here are two from John Palmer:—

"Give us a new type of mobile lighting gear. Available equipment is not the best possible for this work. In place of scaffolding on which to house arcs, I would like to see a lightweight aluminium type of adjustable structure with clips instead of nuts and bolts for extension construction. Think of the time you'd save in construction alone.

"Why not mobile dark rooms and make-up rooms? Surely an enterprising facility company could put items such as these on the road at a reasonable cost?"

Britain holds limitless possibilities for full-scale factual filming. "Chance of a Lifetime" may encourage the film industry to think more seriously in this direction.

Vinten Camera

In the review of the equipment exhibition staged at Associated British studios for the BKS it was incorrectly stated that two cameras were shown by C. Vinten and A. W. Osborne.

The Everest cameras displayed at this exhibition were shown by W. Vinten, and although the managing director, Charles Vinten, attended the exhibition, he was not present at the company's stand. The display was under the charge of Vinten's chief designer, I. J. Dunningham, and the chief of the technical service department, T. W. Osborn.

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CURRENT PRODUCTION CHART

Studio & Subject.	Director.	Producer & Renter.	Progress.
BEACONSFIELD—Beaconsfield 555.			
Sponsored Subjects	———	Crown Film Unit: COI	———
BRIGHTON—Brighton 4477.			
No production	———	———	———
BUSHEY—Bushey Heath 1621-3			
No production	———	———	———
CARLTON HILL—Maida Vale 1141			
No production	———	———	———
COOKHAM DEAN—Marlowe 873			
"Meet the Rev."	Godfrey Grayson	Anthony Hinds: Exclusive	Starts May 30
DENHAM—Denham 2345			
"The Rocking Horse Winner"	Anthony Pelissier	Two Cities: GFD	4 weeks
"Give Us This Day"	Edward Dmytryk	Plantaganet Films: GFD	5 weeks
EALING—Ealing 6761-72			
"A Run for Your Money"	Charles Frend	Michael Balcon: GFD	9 weeks
ELSTREE (ABPC)—Elstree 1600			
"Landfall"	Ken Annakin	ABPC: AB-Pathe	6 weeks
GATE—Elstree 2080			
No production	———	———	———
HIGHBURY—Clissold 1230			
No production	———	———	———
ISLEWORTH—Hounslow 2323			
"The Cure for Love"	Robert Donat	London Films: British Lion	4 weeks
ISLINGTON—Clerkenwell 1271			
No production	———	———	———
MANCHESTER—Rusholme 4025			
"Somewhere on Parade" (tentative title)	John Blakeley	John Blakeley: Mancunian	8 weeks
MARYLEBONE—Paddington 2444-5			
No production	———	———	———
MERTON PARK—Liberty 4291			
"The Gorbals Story"	David MacKane	New World Pictures: Eros	4 weeks
M-G-M BRITISH—Elstree 2000			
No production	———	———	———
NATIONAL—Elstree 1644			
No production	———	———	———
NETTLEFOLD—Walton-on-Thames 2414-7			
"Miss Pilgrim's Progress"	Val Guest	Angel Prods: Grand National	2 weeks
PINEWOOD—Iver 700			
"Madeleine"	David Lean	Cineguild: GFD	6 weeks
"Boys in Brown"	Montgomery Tulley	Gainsborough: GFD	6 weeks
"Spider and the Fly" (from location 2 weeks)	Robert Hamer	Setton-Baring: GFD	1st week
RIVERSIDE—Riverside 3012			
"Maria Chapdelaine"	Marc Allegret	Everest Pictures: British Lion	1st week
SHEPHERD'S BUSH—Shepherd's Bush 1210			
No production	———	———	———
SHEPPERTON—Chertsey 2211			
"The Angel with the Trumpet"	Anthony Bushell	London Films: British Lion	8 weeks
SOUTHALL—Southall 3281			
"The Paper Gallows"	John Guillerman	Advent Films: Adelphi	3 weeks
TEDDINGTON—Kingston 2181-89			
Anatole De Grunwald subject	Anthony Asquith	Anatole De Grunwald	Sets building
TWICKENHAM—Popesgrove 4451			
No production	———	———	———
VIKING—Western 2516			
No production	———	———	———
WELWYN—Welwyn Garden 3241-7			
"No Place for Jennifer"	Henry Cass	ABPC: AB-Pathe	12 weeks
WINDSOR—Chancery 8760, 5211-2			
No production	———	———	———

Awaiting Trade Show

"Adventures of Jane, The" (Keystone: Eros), "Adventures of P.C. 49" (Exclusive), "Bait, The" (Adelphi), "Celia" (Exclusive), "Chiltern Hundreds" (Two Cities: GFD), "Conspirator" (M-G-M), "Cord, The" (Valiant Films: British Lion), "Dark Secret" (Nettlefold: Butcher's), "Dear Mr. Prohack" (Wessex: GFD), "Diamond City" (Gainsborough: GFD), "Dick Barton and the Silent Plague" (Hammer-Exclusive), "Don't Ever Leave Me" (Gainsborough: GFD), "Dr. Leroy's Secret" (Ambassador), "Elusive Pimpernel, The" (Archers: British Lion), "Hasty Heart, The" (ABPC: Warner), "Helter Skelter" (Gainsborough: GFD), "High Jinx in Mayfair" (Advent: Adelphi) "Lost People, The" (Gainsborough: GFD), "Madness of the Heart" (Richard Wainwright: GFD), "Melody Club" (Tempean: Eros), "Mr. Jolly's Journey" (John Baxter), "No Way Back" (Concanen: Eros); "Obsession" (Independent Sovereign: GFD), "Old Mother Riley's New Look" (Renown), "One Good Turn" (Ambassador), "Pilgrim's Way, The" (Baze: Exclusive), "Poet's Pub" (Aquila: GFD), "Private Angelo" (Pilgrim), "Probation" (Data), "Saints and Sinners" (Arliss: British Lion), "Third Man, The" (London Films: British Lion), "Train of Events" (Michael Balcon: GFD), "Traveller's Joy" (Gainsborough: GFD), "Trottie True" (Two Cities: GFD), "Under Capricorn" (Transatlantic: Warner), "Vengeance is Mine" (Cullimore-Arbeid: Eros).

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THE "KINE." PUTS THE Focus on Revival

Three months ago the "Kine." Studio Review put the "Focus on Finance." At that time production was in the depth of a slump as a direct result of the City's loss of confidence in the industry. Now the position has improved; but only improved in a moderate degree. This report sums up the industry's struggle for survival, to produce for next year's entertainment the all-important quality product to satisfy a 49 per cent. exhibitor quota. It provides, in effect, a half-yearly survey of the overall production scene.

By PETER G. BAKER

LET'S realise from the start that there are three things supporting British production today from the financial point of view—the money earned by British producers from released product which is supplemented with very restricted loans from the banking houses; the £5,000,000 which the State-operated National Film Finance Corporation is investing in the industry; and the money spent by the Americans out of their "frozen" earnings in the British territory.

And that trinity has been responsible for making 28 first-feature films in the studios during the six months ending June 30 this year, plus some 16 second features made partially or wholly in the smaller studios. At this rate of production we shall at least equal last year's output of 63 first features, and probably, as conditions improve, exceed that figure. If the kinemas could satisfy their 45 per cent. quota on last year's output, then there should be no doubts about the new exhibitor quota of 40 per cent. if studio operation carries on as it is now.

Wilson's Warning

But the President of the Board of Trade, Harold Wilson, has given a warning. He said two weeks ago, speaking to the annual conference of the National Film Association, that British pictures must play a part in the export market. He hinted that some of our films are being massed produced and tend to fall below an adequate standard of quality, and he urged producers to be careful not to sacrifice quality (so essential if pictures are to be aimed for the international market) in their efforts to bring down costs to meet the home market budget.

That point must be emphasised. Because, in any statistical review of production output, it is easy to overlook quality and that elusive term "box-office value" in reference to numbers.

British producers have made a gallant effort to provide a world market for our films. They have not wholly failed; but they have lost heavily in the first round of the post-war struggle. While they attempt to trim production costs to a home market budget, they are restricted by the fact that new films can only be paid for out of the income from the "old," that is, the 1948 product which is now showing returns from the box-office. So production is limited by current income.

But a glance at the tabulated studio-by-studio list of 1949 productions so far is a good indication that the new programme is varied. And those who have made studio visits and who are in close contact with production executives will tell you that their quality can by no means be called "mediocre." The Rank Organisation has so far completed 16 of the total (including two from Ealing, and two made for GFD by independent producers), three features come from the British Lion studios, with a further six independent subjects being given a British Lion release, and three more have come off the stages of the Association British Picture Corporation.

In the second week of June, 18 features (two second features included) were in production on the sound stages. That is an improvement over the situation a few months ago, when fewer than a dozen films were being made.

Harold Wilson has quoted figures to show that this month there are 500 more people employed in the studio than at the end of March. That tallies well with statistics kept in this office, and represents a total employment today of about 5,720 people, compared with a peak studio employment roll of 7,618 in March, 1948.

But it would be foolish to indicate that there has been a sweeping improvement in the position. Things are still very critical. Britain now has available for production 27 studios, with 80 sound stages and a total floor area of 674,083 sq. ft. shooting space. Five of these studios, representing 10 sound stages and about 11,000 sq. ft. of space, are not suitable for good quality feature production.

The Tragedy of Waste

This tabulation illustrates at a glance the tragedy of dark stages and wasted space: —

In production week ending June 18:

Studios	Stages	Total sq. ft. of shooting space
ABPC (Elstree)	4	60,000
Beaconsfield	1	6,325
Denham	7	110,248
Carlton Hill	2	1,296
Ealing	5	28,437
Isleworth	3	20,099
Merton Park	2	5,772
Nettlefold	3	20,876
Pinewood	5	72,490
Riverside	2	12,675
Shepperton	5	90,000
Southall	1	7,500
Teddington	2	19,400
13	45	455,118

Studios dark week ending June 18:—

Studios	Stages	Total sq. ft. of shooting space
Brighton	2	5,500
Bushey	1	2,400
Gate	2	11,430
Highbury	2	8,580
Islington	2	10,212
Manchester	2	8,750
Marylebone	2	2,300
M-G-M-British	7	73,560
National	4	33,556
Shepherd's Bush	5	30,785
Twickenham	1	11,200
Viking	3	2,652
Welwyn	3	15,368
Windsor	2	2,772
14	38	218,965

Some of the dark stages have been dark for a very long time the modern MGM-British studio, National at Elstree, Shepherd's Bush and so on. If the same concentration of production which is now taking place at Denham and Pinewood were possible in all our studios we could produce a minimum of 120 first features a year.

To help them resolve their problems, the British producers have sought the advice of the Board of Trade. The Board has operated a quota system to support British film making for more than twenty years: but so far on no occasions has the Board really helped to make films. In recent months it has set up a committee to investigate the reduction of film costs, a function which still remains unsolved by the officials although a report is now being prepared for Mr. Wilson. Producers know how to cut costs: but with material expenses, trade union agreements, the demand for production quality in product, it is not always easy to do so. The Board has another committee reporting on film distribution and exhibition but, short of a reduction of Entertainment Tax, it is difficult to see how British producers can expect substantially greater returns for their pictures from the box-office. One can place little faith in the well-meaning committees at the Board of Trade. This is a problem which will have to be solved within the industry itself.

Yet one spark of enlightened Government co-operation was visible when Parliament passed an Act setting up the National Flm Finance Corporation under which £5,000,000 was made available for investment in British

Continued on page 5

BRITISH STUDIO OUTPUT FOR THE FIRST SIX MONTHS OF 1949

STUDIO	FILM	PRODUCER : RENTER	STARTING DATE	WEEKS ON THE STAGES
BEACONSFIELD	Government pictures by the Crown Unit			
BRIGHTON	"The Adventures of Jane"	Keystone : Eros	January 7	4
BUSHEY	No production			
CARLTON HILL	Shorts and television films at regular intervals			
COOKHAM DEAN	"Adventures of PC 49"	Exclusive	February 7	6
	"Celia"	Exclusive	April 4	5
	"Meet Simon Cherry" (Originally "Meet the Rev") ("The Rev")	Anthony Hinds : Exclusive	May 30	—
DENHAM	"Adam and Evelyne"	Two Cities : GFD	October 18	13
	"Madness of the Heart"	Wainwright : GFD	November 29	13
	"The Perfect Woman"	G. & A. Black : GFD	December 6	8
	"Diamond City"	Gainsborough : GFD	January 10	10
	"Chiltern Hundreds"	Two Cities : GFD	February 21	11
	"The Lost People" (originally "Cockpit." Additional scenes. Started at Gate May, 1948)	Gainsborough : GFD	May 17, 1948	14
	"Give Us This Day"	Plantaganet : GFD	April 27	—
	"The Rocking Horse Winner"	Two Cities : GFD	May 4	—
	"The Romantic Age"	Pinnacle Prod. : GFD	June 13	—
	"Boys in Brown" (from Pinewood after 6 weeks)	Gainsborough : GFD	April 12	9
EALING	"Kind Hearts and Coronets" (some work at Pinewood)	Ealing : GFD	October 11	15
	"Train of Events"	Ealing : GFD	January 17	9
	"A Run for Your Money" (originally "The Lark")	Ealing : GFD	March 31	11
	"The Blue Lamp"	Ealing : GFD	June 13	—
ELSTREE—ABPC	"The Hasty Heart"	ABPC : Warner	December 13	13
	"No Place for Jennifer" (main production at Welwyn)	ABPC : Pathe	March 7	14
	"Landfall"	ABPC : Pathe	April 19	10
	"The Dancing Years"	ABPC : Pathe	June 13	—
	"Stage Fright"	ABPC : Warner	June 13	—
GATE	No production	———	———	—
HIGHBURY	No production	———	———	—
ISLEWORTH	"The Third Man" (to Shepperton after two weeks)	London Films : Br. Lion	December 29, 1948	14
	"I Was a Male War Bride" (two weeks and then to Shepperton).	20th Fox	December 6, 1948	10
	"The Angel with the Trumpet" (to Shepperton after two weeks)	London Films : Br. Lion	April 4	12
	"The Cure for Love"	London Films : Br. Lion	———	—
ISLINGTON	"Marry Me"	Gainsborough : GFD	December 20	9
MANCHESTER	"What a Carry On" (originally "Somewhere on Parade")	Mancunian	April 11	8
MARYLEBONE	"The English Way"	Baze : Exclusive	January 3	3
MERTON PARK	Industrial films and shorts			
	"The Gorbals Story"	New World : Eros	May 2	5
M-G-M—BRITISH	"Conspirators"	M-G-M	November 8	13
	"Maytime in Mayfair"	Wilcox : Br. Lion	November 29	10
NATIONAL	"The Elusive Pimpernel"	Archers : Br. Lion	November 8	13
NETTLEFOLD	"Murder at the Windmill"	Angel : Grand National	December 28	6
	"No Way Back" (originally "And Come Out Fighting")	Concanen : Eros	December 28	4
	"Old Mother Riley's New Look"	Reynolds : Renown	February 28	5
	"Dark Secret"	Nettlefold : Butcher	March 21	6
	"Miss Pilgrim's Progress"	Angel : Grand National	May 16	—
PINEWOOD	"Obsession"	Independent Sovereign : GFD	November 22	7
	"Dear Mr. Prohack"	Wessex : GFD	November 29	14
	"Stop Press Girl"	Aquila : GFD	December 27	6
	"Poet's Pub"	Aquila : GFD	February 28	7
	"Madeleine"	Cineguild : GFD	April 12	—
	"Boys in Brown" (to Denham after 6 weeks)	Gainsborough : GFD	April 12	9
	"Spider and the Fly"	Setton-Baring : GFD	May 12	—
	"The Astonished Heart"	Gainsborough : GFD	May 30	—
	"Golden Salamander"	Neame : GFD	June 14	—
RIVERSIDE	"The Cord"	Valiant : British Lion	March 28	13
	"Maria Chapdelaine"	Everest : British Lion	May 23	—
SHEPHERD'S BUSH	"Don't Ever Leave Me"	Gainsborough : GFD	December 27	10
	"Travellers Joy"	Gainsborough : GFD	December 27	7
SHEPPERTON	"I Was a Male War Bride" 11 weeks location studio 10 weeks from December 6 unit returned to Hollywood	20th Fox.	December 6, 1948	10
	"The Third Man" (2 weeks Isleworth)	LondonFilms : Br. Lion	December 29	14
	"The Angel with the Trumpet" (2 weeks Isleworth)	London Films : Br. Lion	April 4	12
SOUTHALL	"High Jinx in Mayfair"	Advent : Adelphi	April 11	4
	"The Paper Gallows"	Advent : Adelphi	May 10	5
	"Skimpy in the Navy"	Advance : Adelphi	June 13	—
TEDDINGTON	"Now Barrabas, Was a Robber"	International : Warner	January 3	6
	"Three Men and a Girl"	de Grunwald : Renown	May 25	—
TWICKENHAM	No production			
VIKING	"Melody Club"	Tempean : Eros	February 3	3
WELWYN	"No Place for Jennifer"	ABPC : Pathe	March 7	14
WINDSOR (Cursitor Street)	Documentaries and shorts			

FOCUS ON REVIVAL

Continued from page 3

film production. First the interim company was told to operate by making loans to distributors only : but more recently it has been possible to loan capital to individual producers. In general the Corporation has supplied the "end money," expecting the City banks to put in the more safe investments, always with the provision that the producer himself must have something at stake.

It is worth while to summarise the work of the Corporation over the past year. It has made these loans :

British Lion Distributors over £1,000,000 loaned in November, working capital for a group of films made by independent producers within the organisation.

Exclusive received a more moderate loan for a series of pictures similar to the "Dick Barton" subjects.

Mancunian was lent something in the region of £80,000 for production in the small northern Manchester Film Studios.

Renown's loan goes towards the production of three first features in the current programme being made by George Minter in association with producer John Sutro.

Angel Productions has help for its programme which includes "Miss Pilgrim's Progress," now at Nettlefold.

Ortus was supported financially on the production of "Children of Chance" in Italy, production by John Sutro.

Plantagenet, the Nat Bronsten company, has a loan for "Give Us This Day" a picture now at Denham.

Valiant, the Anthony Havelock-Allan company had a loan towards the making of "The Cord" at Riverside.

Goronardo gets money for making "Your Witness" at Warner's Teddington studio, a picture to be produced, directed and rented by Americans with an American star.

Parthian has a loan for making a group of short television films in Britain for export to America.

Pilgrim Pictures, the del Guidice company, has a loan for the Bernard Miles production of "Chance of a Lifetime."

Advance Films, executive producer Arthur Dent, has a loan for making "Skimpy in the Navy" at Southall.

Harry Reynolds Productions has been given help in making a new series of "Old Mother Riley" films.

Pinnacle Productions, the Edward Dryhurst company, has a loan for making "The Romantic Age," now in production at Denham.

Anatole de Grunwald has a loan for his current production at Teddington.

That is a total of 15 organisations which are being assisted from State funds. The NFFC withdrew loans from Aegis (the co-operative scheme with which Maurice Elvey, Marcel Hellman and Nat Bronsten are associated) because production plans have not materialised and from Setton-Baring because the Rank Organisation did not provide the end money as arranged but took over the whole production which is now in production at Pinewood.

The Corporation has made 11 of these loans to producers. It has rejected 21 applications and has 15 active inquiries.

There is little doubt that without the support of the Corporation, the British Lion studios would not be in full production to-day. Many of the smaller studios would have remained idle and thousands more technicians and craftsmen would be out of work. How successful the loans will be remains to be seen. But it may be queried whether the Corporation is pursuing the right policy by making so many loans for the making of less ambitious and second-feature product. Certainly it is difficult to appreciate why it should support the making of shorts for American televison!

Stopped the Rot

The work of James Lawrie and his board of directors under the chairmanship of Lord Reith, is worth watching. In fairness, the Corporation has done more to stop the rot in post-war British production than any other body.

Now, finally, the third of the trinity—the Americans in Britain. During recent weeks there has been not a little criticism of their lack of participation in British production.

Let us be realistic. If you found a large slice of your export market taken away from you by legislation would you feel disposed to make every effort to increase production in the "enemy camp"? How would British producers react to foreign legislation to the effect that if they show x number of pictures a year they must make y number of pictures in that foreign country? What a headache, for example, if we were expected to produce films for the French, Japanese, and Indian markets in the really national character!

It is well to consider those questions before criticising the American companies in Britain.

In fact, Fay Allport, European manager of the Motion Picture Producers' Association of America estimates that during the first nine months of the Anglo-American monetary agreement, signed in March, 1948, his member companies have invested about £1,250,000 in British film making.

The tabulation on this page lists all the British feature films handled by American companies since March, 1946. Some of them have been produced by independent British producers, with a partial financial interest in them by the U.S companies; but the large majority of the films have been made by American sponsored units in Britain.

It is interesting to compare American production figures with a representative pre-war year.

In 1939 there were 38 features handled by U.S renters in Britain; First National (5) and Warner Brothers (7) handled 12, of which all were made by the companies' own units; United Artists handled 4; Paramount 3; RKO-

Continued on page 6

BRITISH FEATURES RENTED BY U.S COMPANIES March 1946—June 1949

NAME OF FILM.	AMERICAN COMPANY.	KINE. REVIEW DATE.
*Back Home in Ireland ..	Paramount (Made by Donovan Pedelty)	Mar. 21, 1946
Gaiety George	Warner	Apr. 25, 1946
George in Civvy Street ..	Columbia	Apr. 18, 1946
*Musical Masquerade ..	20th Fox (Made by Horace Shepherd)	Apr. 25, 1946
Skipper Puts to Sea, The ..	20th Fox	Apr. 4, 1946
Wanted for Murder ..	20th Fox	Apr. 25, 1946
*Echo of Applause	Warner (Made by James M. Anderson)	Jan. 25, 1946
*Scottish Express	Warner (Made by Paul Barralet)	May 2, 1946
*Fashion Fantasy	20th Fox	Aug. 29, 1946
This Man is Mine	Columbia	Sept. 19, 1946
Meet Me at Dawn ..	20th Fox	Jan. 9, 1947
School for Danger	UA	Feb. 13, 1947
Royal Tour of South Africa ..	20th Fox	May 15, 1947
Southern Cross	Columbia	June 5, 1947
They Made Me a Fugitive ..	Warner	June 26, 1947
Dancing With Crime ..	Paramount	July 3, 1947
*Journey to Adventure ..	Warner	July 10, 1947
So Well Remembered	RKO-Radio	July 10, 1947
While I Live	20th Fox	Oct. 9, 1947
*Here is the Gold Coast ..	UA (Central Office of Information)	Dec. 25, 1947
Just William's Luck	UA	Dec. 25, 1947
Daughter of Darkness ..	Paramount	Jan. 29, 1948
This was a Woman	20th Fox	Jan. 29, 1948
*All the King's Men	M-G-M British (Made by Edward Eve)	Feb. 5, 1948
Idol of Paris	Warner (Premier Productions M. Ostrer producer)	Feb. 26, 1948
*Top Liner	M-G-M (Made by Lewis G. Jonas)	Feb. 12, 1948
The First Gentleman ..	Columbia	Mar. 25, 1948
So Evil My Love	Paramount	Mar. 11, 1948
*Voices of Malaya	M-G-M (Crown Film Unit)	Mar. 25, 1948
Snowbound	RKO-Radio	Apr. 1, 1948
William Comes to Town ..	UA	Dec. 9, 1948
*Goodwin Sands	Warner (Made by Carlyn Dixey)	Apr. 22, 1948
A Yank Comes Back	UA	Jan. 20, 1949
Fatal Night	Columbia	Apr. 15, 1948
Destination Unknown ..	Columbia	Feb. 17, 1949
*The King's Musick	M-G-M	Feb. 17, 1949
Britannia Mews	20th Fox	Mar. 3, 1949
Edward, My Son	M-G-M	Mar. 10, 1949
The Golden Madonna ..	Warner Producer : John Stafford	Apr. 21, 1949
Paper Orchid	Columbia	Apr. 14, 1949
Now Barrabas was a Robber ..	Warner Producer : Anatole de Grunwald	May 26, 1949
*Waverley Steps	UA (Made by John Eldredge)	June 9, 1949

* Second features.

N.B.—The majority of pictures have been produced by the American companies concerned, and in each case the company has had a financial interest in their production.

REDUCING TIME ON THE FLOOR

Some Practical Suggestions for Effecting Economy

By R. HOWARD CRICKS, FBKS, FRPS

ONE of the chief merits of the Independent Frame process is its realisation that the film studio is a factory and must be run with factory organisation, with a systematic arrangement of production lines, proper pre-planning, and adequate equipment. To the protagonists of I.F., the studio is not just a floor with provision for hanging a few lamps, but a well designed factory equipped with specialised apparatus whereby the many operations of film production may be carried out in the shortest possible time.

There are many who maintain that any attempt to regard the studio as a factory will result in killing the creative urge that inspires a good film. I am a complete Philistine in holding the view that the only place in the studio where creativeness matters is in the script department; once the script has been agreed with producer and director, the rest of film making is just a job. Why any attempt to make that job easier should cause the standard to fall is beyond my comprehension.

"Creative" Workers

The full I.F. process necessitates, as we have heard from David Rawnsley and Donald Wilson (and as I have heard in more detail from the engineers concerned in its construction), lavish equipment of a costly and specialised nature. Until it has proved itself against the views of those corduroy-trousered "creative" workers, it is not to be expected that it should be widely adopted.

But certain of its principles could be adopted at quite short notice in any studio.

The most essential of its principles, and the one pre-requisite to any systematic approach to the job of film making, is a system of finance which makes it possible to plan production at least a year ahead, and to maintain a continuity of production which will keep the stages occupied. At present between productions one sees stages standing idle for weeks or months; somebody pays for that idle space.

Where does the money go in film production? Not in pre-planning: the cost of a few months' work of script writer and director is a drop in the ocean. The cost of a story? (It may be worth it, but generally is not.) Film stock? Optical work? Processing and printing? Scoring and re-recording? Editing?

No. All film budgets that I have seen stress that the cost is in *floor time*—in the hire of studio space for months for the building of sets and shooting, the salaries of set constructors and during the shooting period, artists, technicians and craftsmen.

There are two ways in which floor time can be reduced; by simplifying sets, or reducing their number; and by reducing shooting time.

It has always been my conviction that far too much attention is devoted to sets. Several times recently I have chosen one particular set from a film and have questioned friends as to how many of them could recall it. To give an example, in "Oliver Twist" there was a fairly elaborate set of London Bridge, complete with BP; of a number of people I have asked not one recalled seeing the set. Logically, therefore, a splash of lamp-light on a bare wall would have served equally well.

If the average film is analysed, it will be found that two or three sets are of sufficient importance to justify a fair expenditure, but the majority are quite unimportant and should therefore be constructed in the simplest possible manner. This would economise in design, work, materials and labour, but chiefly in floor time.

Back-projection

A feature of I.F. is the widespread use of back-projection to economise in set construction. But the I.F. technicians have brought process work to a fine art; we are told that a complete BP set-up can be ready for shooting in about an hour. Its adoption in the ordinary studio would, under present conditions, effect little or no economy because of the time spent in setting up.

Analysing the manner in which the shooting time is spent on the floor, we find that the time spent in actual shooting is quite insignificant—notwithstanding the large number of takes which the director thinks necessary to sustain his reputation. Rehearsal represents a fair proportion of time. But, as anybody who has worked in the studio knows full well by far the greatest part of the artists' time is wasted while camera, microphone and lights are laboriously moved from one set-up to the next.

The obvious way to reduce shooting time is to reduce this wasted time between set-ups. The simplest way to do so is to have a duplicate camera and camera crew, duplicate microphone, boom-swinger and lights.

There is, of course, nothing new in this idea; I recall seeing two cameras in use when I was a child. In the more recent past two objections have been urged against it: shortage of cameras, and the fact that one camera got in the field of the other. As regards the first problem, both Newall and Vinten cameras are, I believe, now obtainable at not too great delay, and the cost of a camera is negligible compared with the possible economies. The problem, of course, still arises with Technicolor.

Pre-planning

The second point is a matter of pre-planning: of arranging the order of shots so that reverse-angle shots will not be made consecutively—that a close-up will not immediately follow a long-shot, or, if it does, that a long-focus lens is scheduled.

Let us picture how this idea could be put into effect. Before the final version of the script is agreed the cameraman will have been called into consultation. When arranging the order of shooting and the camera angles of the floor he will bear in mind that while one set-up is being played the duplicate camera is being positioned for the next set-up. It may be on a different set—if so, no problem arises: if it is on the same set camera positions and lens foci must be so chosen that the duplicate camera will be out of the field of the first.

When these scenes are in production the duplicate camera crew will have in the script full details of the set-ups. While the first set-up is being filmed, camera, microphone and lights will be approximately positioned for the next. During actual shooting periods work will have to cease if sound is being recorded.

When the first set-up is finished director and artists will move straight into the next

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THE "KINE." PUTS THE FOCUS ON REVIVAL—Contd.

Radio 6; Columbia 5; 20th-Fox 6; Metro-Goldwyn Mayer 3.

During that year British studios made 95 first features.

In 1948 the U.S companies in Britain handled only 10 feature length British pictures, in a year when the total first-feature output was 63.

But there is a considerable improvement in the current schedules for the American companies.

Warner Brothers is particularly active. Its distribution arrangement with ABPC for joint production at Elstree, which will give some ten feature films a year a distribution in the States has had very favourable reception in the City. Warner has star Jane Wyman working on "Stage Fright" at Elstree now with Alfred Hitchcock directing. Later it will release the film which David Rose is to make at Teddington.

M-G-M is now handling the successful "Edward, My Son," made here with Spencer Tracy in the starring role. Editing is being complete on "Conspirators," which brought Robert Taylor to England. In the near future a sequel to "Mrs. Miniver," co-starring Greer Garson and Walter Pidgeon, will be made at the Elstree studios. Meanwhile, Metro is handling a number of British second feature and short stuff.

RKO-Radio, which has operated a production deal with the Rank group since the end of the war, will be going into production this summer with "Treasure Island," which Walt Disney is to make at Denham.

20th-Fox is currently making the Tyrone Power film at Shepperton, "Black Rose." The company will be in production again in August with "Night in a City." Fox has kept up a steady flow of British product over the past four years and has been well in the lead so far as the American colony is concerned.

United Artistes has been closely associated with production from the Alliance group of studios at Riverside, Twickenham and Southall. No definite plans have been set for future production, but this does not mean that the company will make no more British films.

Similarly, Paramount has no current British production plans but says that it is "interested."

The Selznick Organisation is actively engaged on British production in association with London Films. Sir Alexander Korda recently finished "Third Man," directed by Carol Reed and starring Joseph Cotten and Orsen Welles, produced in association with Selznick. And Selznick will be in Britain soon with Jennifer Jones to study the script for the next joint production, a film to be made by Michael Powell and Emeric Pressburger for London Films, "Gone to Earth."

And don't forget the Hitchcock pictures made here, the last one, "Under Capricorn," having a Warner release.

With a tendency for the Government to insist on maintaining a high British exhibitor quota level despite America protests, we may well experience a steady increase in U.S sponsored production in Britain.

Any production here will be welcome. British producers cannot afford to take a nationalistic attitude when the aim of all must be to reopen the dark stages. It will be a long time before those idle stages can be brought back to full production, but the keynote of summer, 1949, is that of steady and optimistic recovery.

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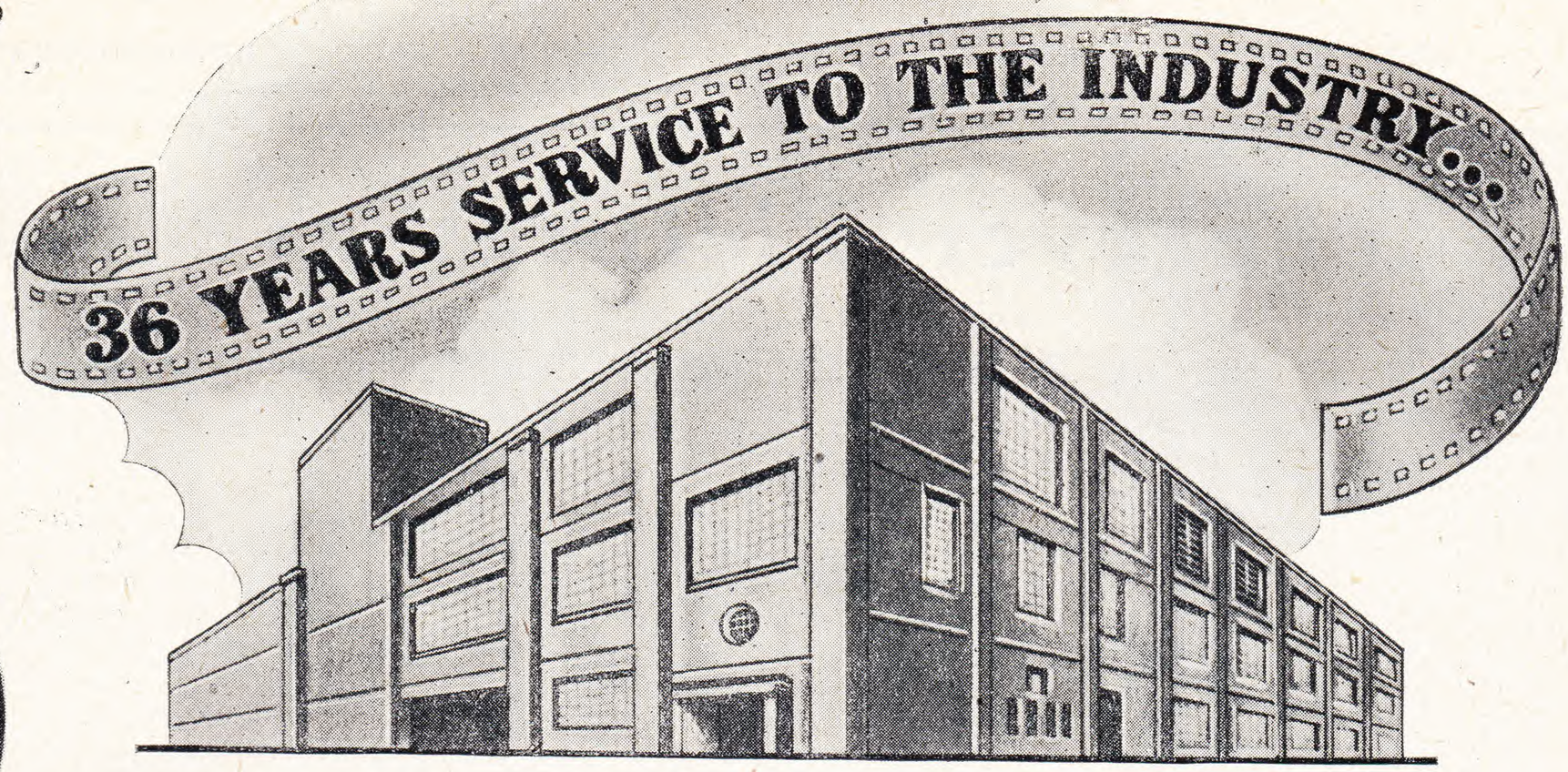

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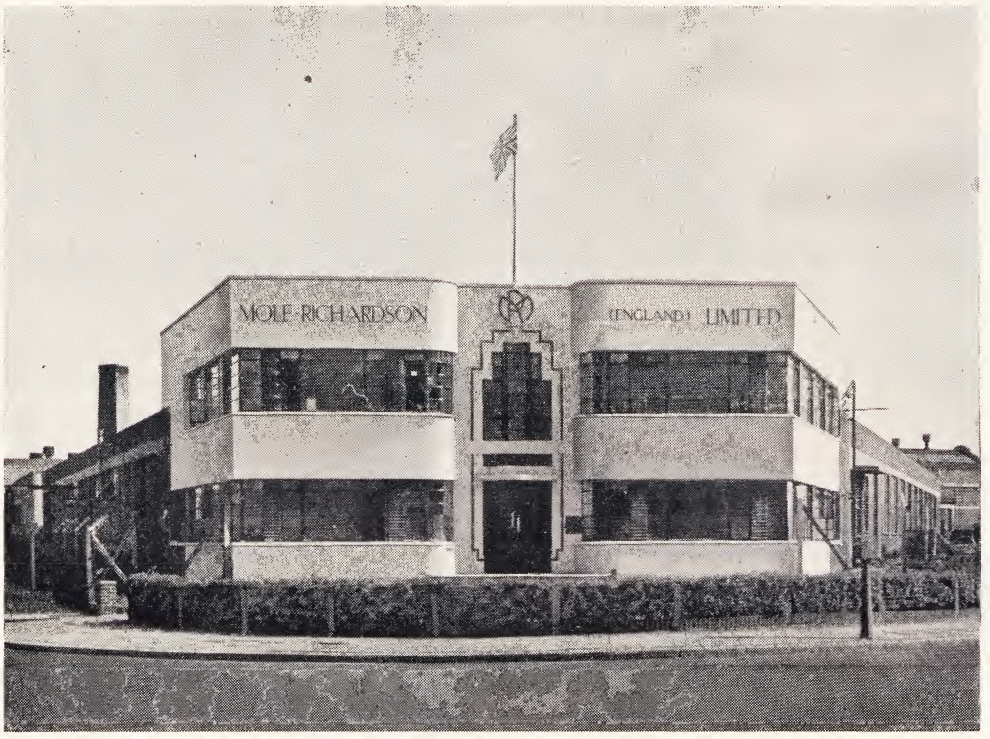

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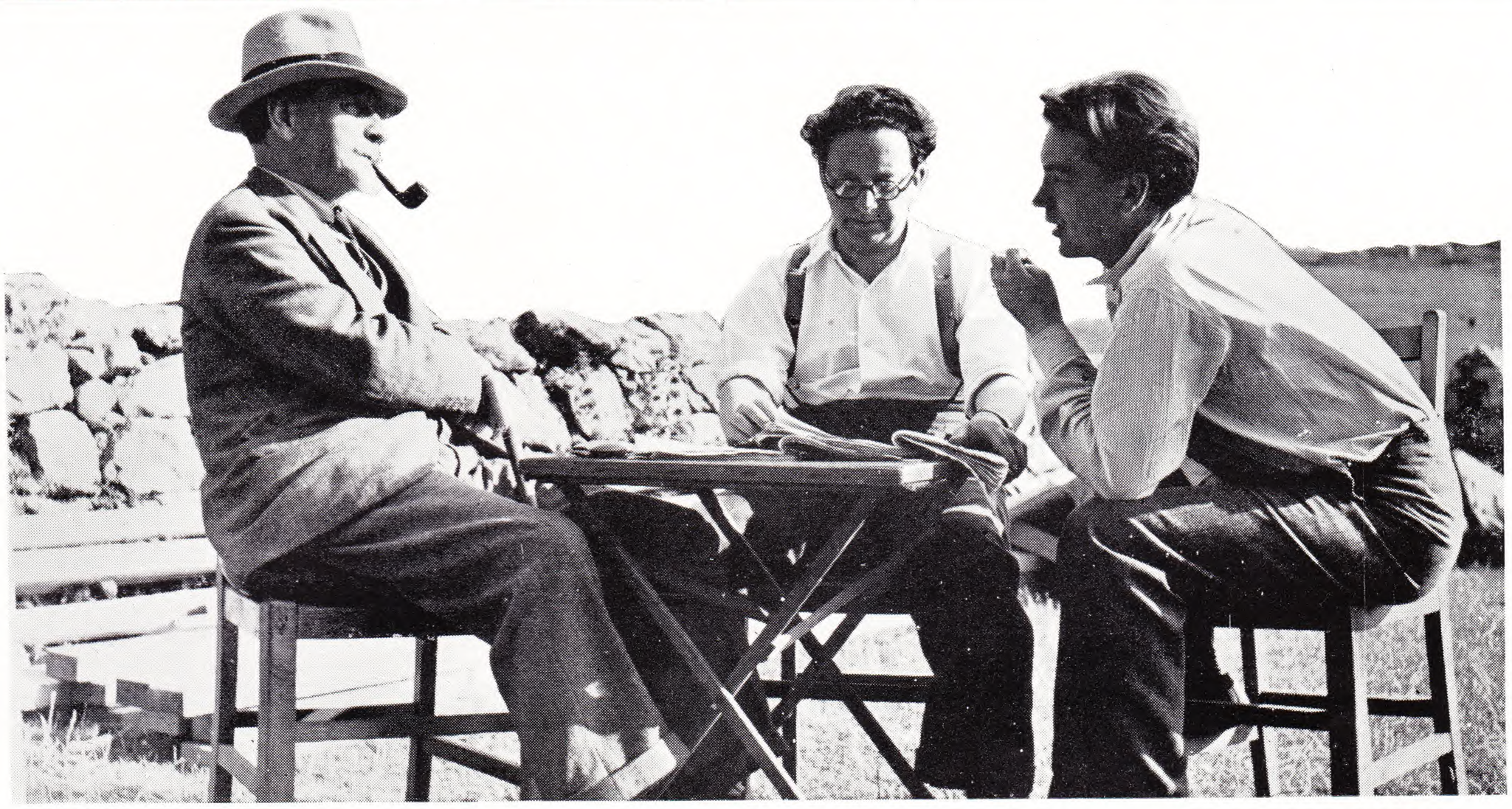

On the island of Barra, author Compton Mackenzie with M. Danischewsky and director Sandy Mackendrick discuss production on WHISKY GALORE !

REMOTE LOCATION FILMING

A mobile studio unit experiment and the problems affecting the alternative schedule-type of location—the operation of a makeshift studio

By M. DANISCHEWSKY, *Associate Producer of Ealing's "Whisky Galore!"*

MY observations on large-scale location filming are based on experiences with the making of "Whisky Galore!" on Barra, a remote island in the Outer Hebrides. They should, therefore, be considered in that light when applied to the more general problem of filming away from a studio.

Not all locations, happily, are as remote or so lacking in general facilities. But in defence of Barra it must be said that the effort was rewarding: I have seen few places so photogenic and with such a strong film personality of its own. I believe that this and the charm of its inhabitants has emerged on the screen and given the film a certain freshness and originality which has made it appeal to the public.

Island Limitations

The public is not to know, however, that there is no electricity at all on the island, hardly any transport, hotel accommodation to cover possibly one-tenth or one-eighth of the unit, no canteen or catering facilities, hardly any indoor sanitation and a handful of baths spread among the island's two thousand population. From the point of view of such things the island was not the ideal choice for a 12 weeks' location.

Again, as Barra was the scene of our mobile studio unit experiment, I am dealing here with problems affecting the alternative schedule-type of location—the operation of a makeshift studio.

This was a converted church hall in the village of Craigstone—about three miles from our headquarters at Castlebay. It is the main street in Castlebay which is the village street of our picture and the bay itself, with its pier and the ruined castle in the water, features throughout the film.

The hall at Craigstone was really too small for comfortable working—49 ft. long by 25 ft. and only 8 ft. high at the eaves, rising to 14 ft. Baynham Honri, studio manager, recommends in his report 65 ft. by 35 ft. with a height of 15 ft. It seems, retrospectively, foolhardy to have tackled the interiors in so small a studio—yet the results are astonishing.

It must be remembered that it was in this confined space we took all the shots of the *reiteach*, or the betrothal party, using two cameras and with a crowd of 50! The success of this task was due to the inventiveness of art director Jim Morahan and the co-operation of the construction crew under Ernie Diamond and most certainly to director Sandy Mackendrick.

The sound-proofing, using felt and slag-wool, proved satisfactory and we managed to cope with the necessary proximity of a 30-kW. generator. On the other hand, there were no low-flying 'planes or heavy traffic noises to contend with and no railway for 50 miles in one direction and about 3,000 miles in the other.

We used three cameras—a standard Mitchell for exteriors, an NC Mitchell for studio, and a Newman-Sinclair. In this department we found the blimps heavy and clumsy for speedy location work; Honri recommends a lighter type or a zip-on soft blimp.

As for sound, we took our trusty old RCA truck and it did its job well—but here we sighed for something smaller and more mobile in rough country. A light portable sound equipment carried on a jeep trailer would have been ideal.

All electricity had to be imported to the island. We brought a Guy lorry with 24-kW. generator and a caterpillar trailer, 30-kW. generator and a small portable 2.5-kva. generator as a power source for projection, paint-spraying, hair-drying, etc.

There being no kinema on the island, we rented another church hall at Castlebay which we turned into a projection theatre with a 35-mm. projector (for studio or combined prints) and a portable 16-mm. projector for film shows for the unit. One of the good facilities in Barra is a daily BEA plane service (using a wonderful stretch of cockle-strand as a natural landing ground), and this enabled us to get our rushes back quickly.

Our sets were prefabricated at Ealing and shipped out to Barra and assembled and erected there. On more optimistic days when there had been a bit of sun in the sky and some supplies of hard liquor in the one bar on the island, we dreamed our dreams that one day the whole "Mobile Studio Unit" can be prefabricated, and studios, workshops, darkrooms, baths, and all other components put up in whatever part of Britain took our fancy. More soberly, I believe the circus fit-up idea can only be very limited in its application, and I personally would always vote for an existing solid structure for the studio itself.

More Mobility Wanted

Yet, I could have wished for more mobility than we had in Barra—luxuries, I admit, for we had all that was necessary, but luxuries which would have made life so much easier. A caravan trailer divided into a make-up room and a small mobile office would have been one such luxury, and yet another—a caravan as a communal dressing room-cum rest room for the artistes. They get browned-off sitting or standing about while all the fixing-up is going on, and I believe it repeats itself in performances—or can do unless someone is continuously employed in counteracting the mood.

In location films even more than in studio films, the mood of the unit is frequently reflected in the finished film. In this respect we were lucky with "Whisky Galore!" for I believe a better-natured or a more united unit has never sallied forth in search of film adventure—and we had wonderful support back home at Ealing.

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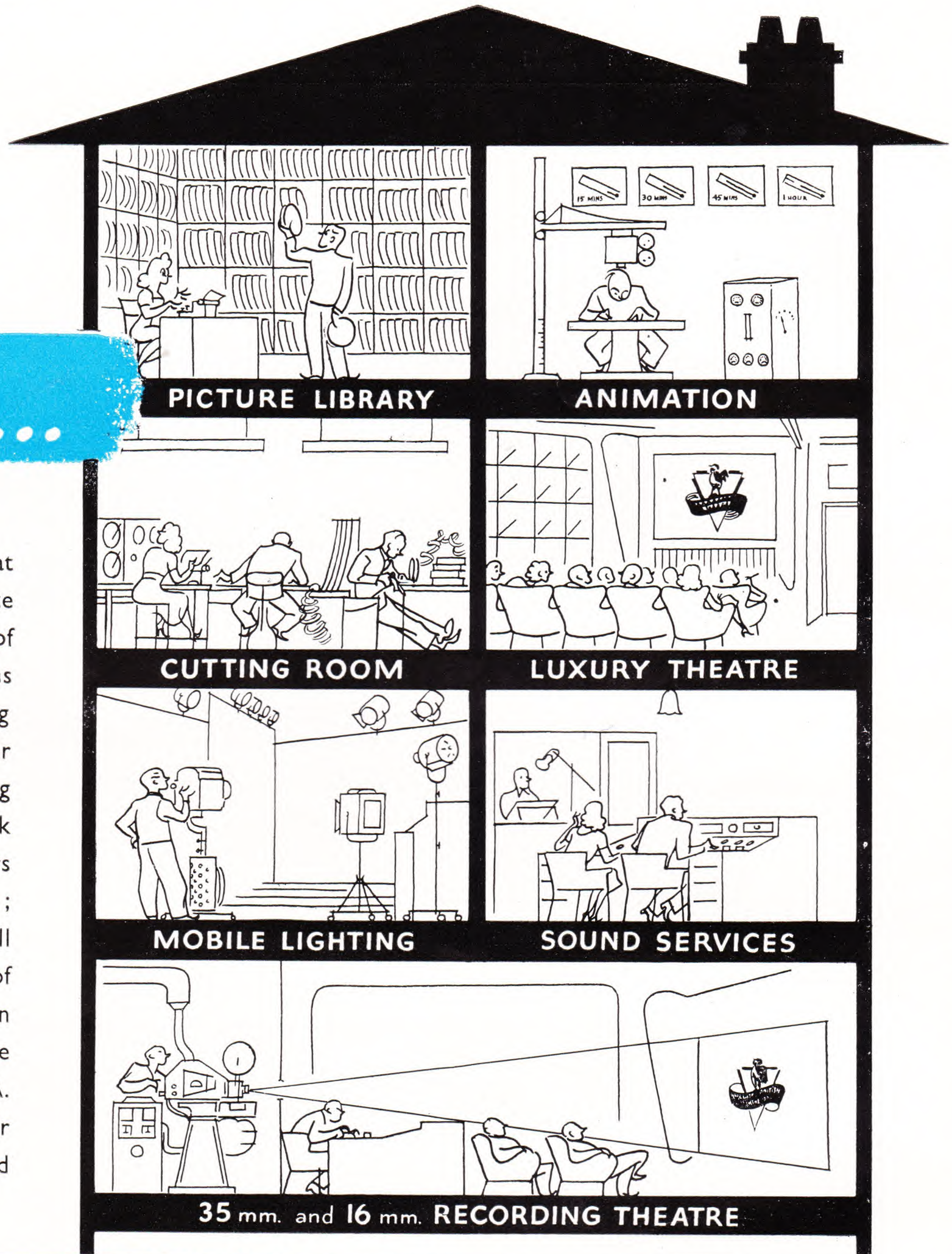

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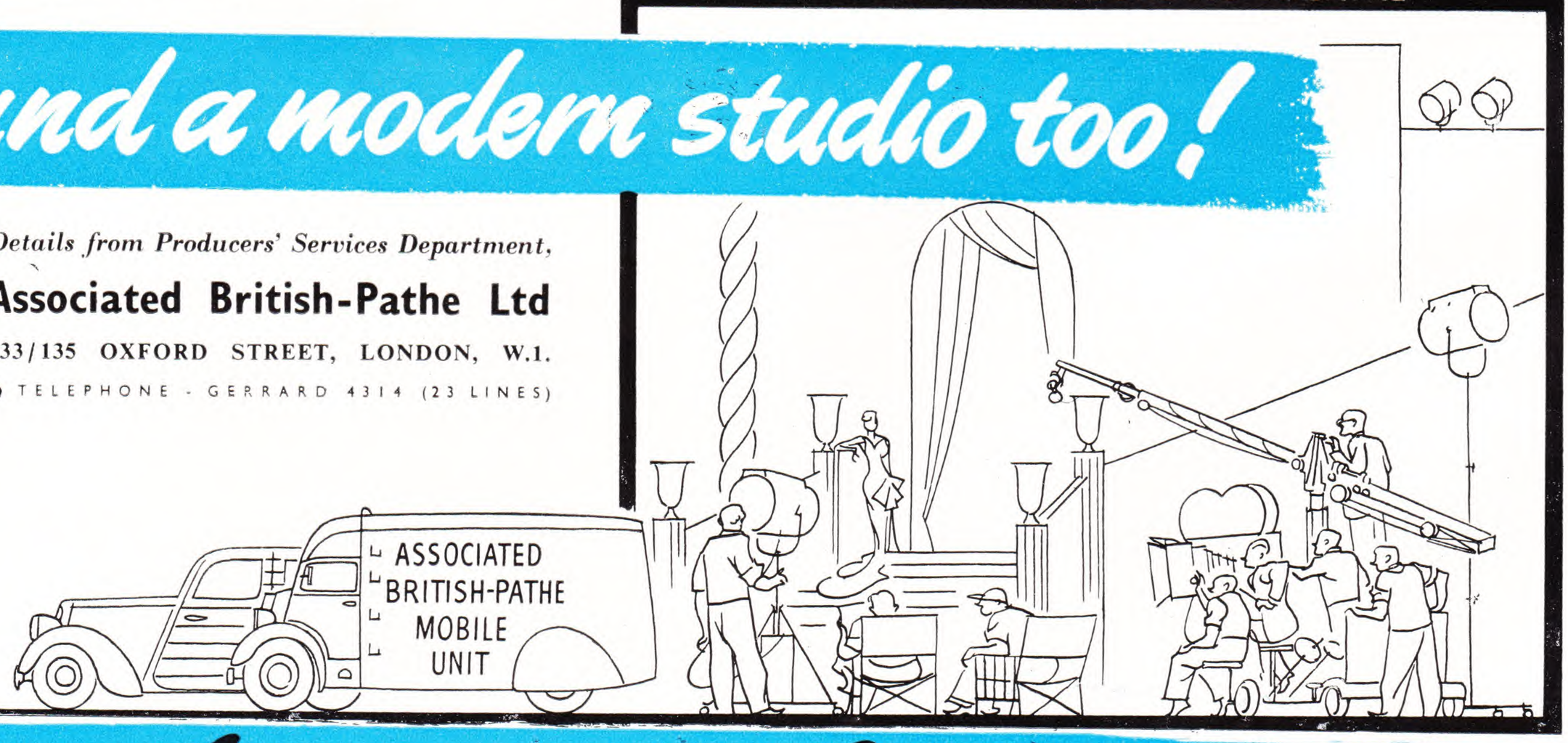

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THE CALL OF THE OPEN COUNTRY

Equipment manufacturers and production facilities companies are anticipating a step-up in location filming with the introduction of new lines in mobile gear and a wider selection of hire services

THE practice of shooting films entirely, or for the major part, on location, appears to be gaining favour with producers. In addition to the British scene—"Whisky Galore" was made on the Isle of Barra and "Chance of a Lifetime" is being filmed in the Stroud area of Gloucestershire—the Continent has attracted units for long-sequence shooting, leaving only very small sections of features to be finished in studios.

Apart from the purely location side of this out-of-studio work, there is the tendency on behalf of certain companies to convert country mansions or other buildings into premises for factual filming.

All these departures from the accepted centres for film production demand special considerations from the equipment angle. Location work has always called for—and, possibly, will continue to require—on-the-spot ingenuity on behalf of the technical unit. The odd problem, unforeseen in the pre-planning stages, will always crop up.

Nevertheless, manufacturers of equipment are alive to the developments in this direction and are following closely the experiences of producers with this type of work to provide them with the gear they require.

Ealing's Diesel Truck

An admirable example of such equipment is the diesel truck which Ealing Studios have recently completed, primarily for their own use, but also available for hire. The need for such a vehicle arose from the fact that the generating plant at Ealing, while adequate for black-and-white, was insufficient for Technicolor. Rather than instal additional static plant, it was decided by Baynham Honri, studio manager, that a mobile unit was more versatile.

The truck made its bow to the trade on the occasion of the recent BKS exhibition at the ABPC studios. On an Atkinson eight-wheeled diesel lorry is mounted a Davey Paxman 12-cylinder 400-h.p. 1,000-r.p.m. diesel engine, with electric starting equipment, direct coupled to a Siemens 230-volt. dynamo, giving an output of 2,300 amps. at 115/230 volts. on a three-wire circuit.

Outstanding among firms offering facilities for location work is Mole-Richardson. Over a period of years an organisation has been built up which not only makes available any type of equipment needed—arcs, inkies, silent generators, booms—but specialises in service.

At an Hour's Notice

The service offered starts from the availability of practically any item of equipment at an hour's notice, day or night. In a spacious store in the new factory at Acton is a collection of equipment worth many thousands of pounds—in addition to the large amount of equipment out on hire.

J. A. McDonald, who is in charge of the hire department, was recently awakened at 4.30 one morning by a telephone request for a generator and lighting equipment, to be available in two hours' time: the equipment arrived on time.

Mole-Richardson engineers have won a reputation for offering service. They are not merely in charge of the plant—they are available for, and willing and able to undertake, any job associated with it.

Two particular assignments M-R look upon as their own perquisite: events at the Albert Hall, where lighting is provided for all large events; and the coverage of Royalty—lighting was installed in Westminster Abbey for the royal wedding.

Television Work

Short notice is characteristic of television OB's, the equipment for which may range from 50 to 400 kW. The newsreels call frequently upon the same equipment. A frequent assignment is to meet visiting film stars at Northolt.

M-R services are not restricted to this country. Under the management of Vernon Jarratt, formerly of the British Embassy, a branch has been opened in Rome, at 84, Via Savoia (telephone 850981). Here a wide range of equipment is available, while British stocks can be drawn upon if necessary. All the engineers have been specially picked as being bi-lingual—they can take instructions in English or Italian. Service was provided for the Aquila unit when in Italy.

The M-R service has also been made available in many other Continental centres. Equipment was recently on hire in Vienna, while France is a frequent assignment. In Morocco Jack Cardiff filmed "The Black Rose" with the aid of M-R equipment, including two "Brutes."

There is another aspect in which a comprehensive hire service is of benefit to the trade as a whole. There are certain types of equipment—an instance is the lightning or gun-flash equipment described on another page—which is so rarely required by any one studio that the expense of purchasing it is not justified. If it is available for hire and the needs of the whole industry may be met by two or three sets of equipment.

GEC's range of lighting requirements for film production units includes gear with particular application to location work.

Two recently introduced features are the exclusive GEC compact source lamp with its successful solution of the intermittent use problem by the employment of a simmering technique, and a 24-hour lighting and generator service.

The compact source lighting equipment has progressed from the development stage to one of practical employment in numerous colour and black-and-white productions.

Flood or Spot

This lamp can either be obtained in flood or in spot form ready for use on a normal-type wheeled stand base and suitable for direct connection to any DC supply from 105 volts to 115 volts. The rating is 35 amps. 2½ kW. All ballast resistances and pulse starting gear are incorporated in the one unit.

Remote control for these lamps is available so that starting and intermittent use can be employed without having to climb to spot rails or to slung positions.

A new 10-kW. compact source lamp is in the course of development at the present time.

An entirely new 24-hour lighting unit and generator hire service was recently introduced by GEC. Any of the arc, incandescent or compact source lighting equipment in the GEC range, together with all necessary ancillary and auxiliary gear, can be delivered to studio or location site.

The minimum inclusive daily charge of £10 applies only to generator units—obtainable in capacities of 500 amps. to 1,500 amps. By employing the exclusive GEC double-negative series technique the company's carbon arcs can be utilised on higher voltages up to 260 volts DC and with a substantial saving of cabling.

Lighting always raises problems on location work especially where interiors of buildings are required for factual settings. Multiple HD Industries is handling a range of

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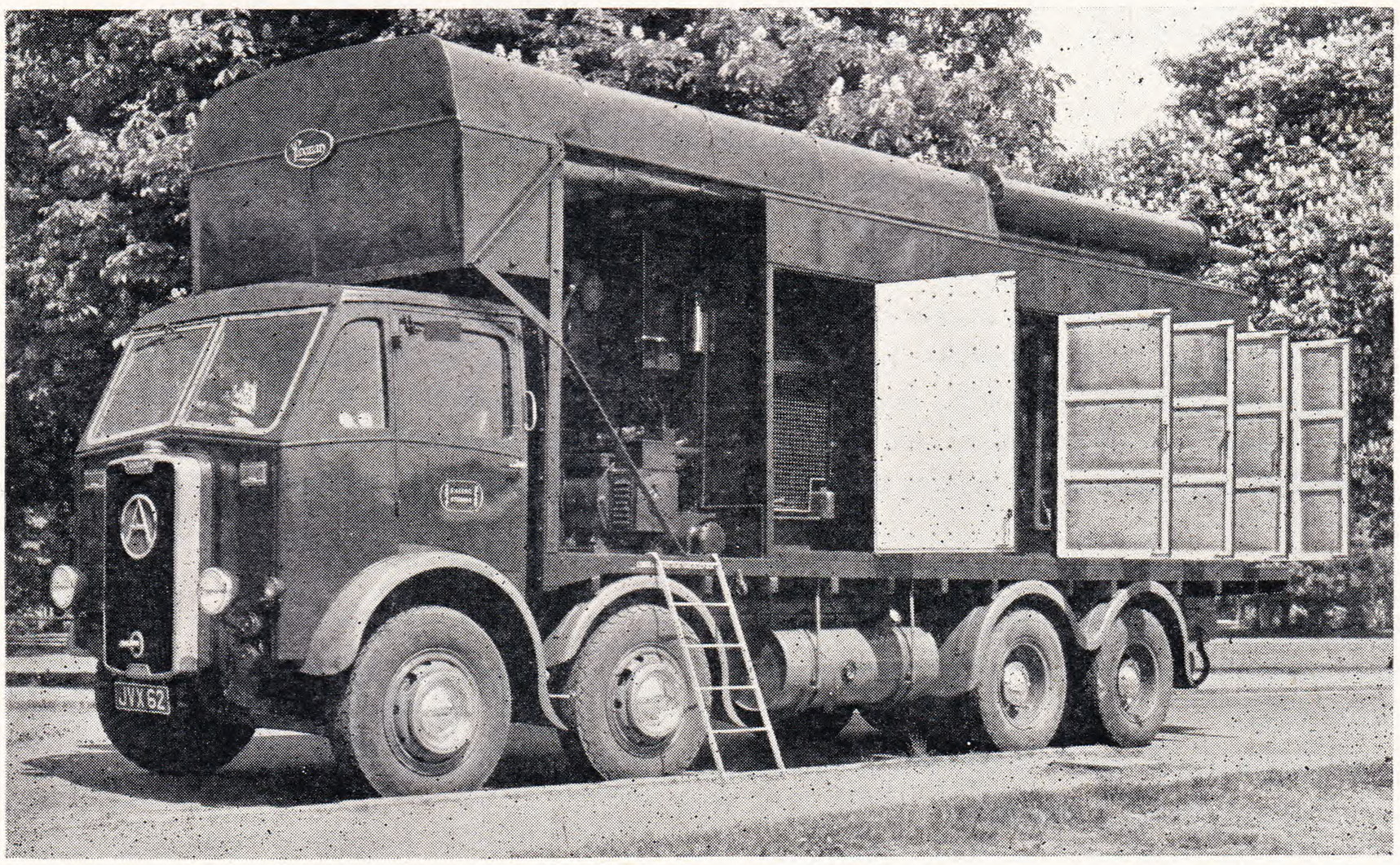

Available on hire to producers outside the Ealing organisation, this mobile generating outfit gives an output of 2,300 amps at 115/230 volts on a three-wire circuit

Architect for castles — and cottages . . .

● FROM blueprint to model, from model to full-size structure—so grew this "dream castle"—product of the set designer's skill.

As architect for filmdom's castles and cottages, he heightens dramatic effect by his creative work with materials and textures. His sets help to establish and maintain story mood . . . give camera and actors the freedom needed to do full justice to the scene.

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The Call of the Open Country

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gear to meet these particular needs.

In addition to all lighting equipment Multiple HD has 14 different types of brackets and fixings which fit over beams or around columns or over picture rails to take lamps and so prevent damage in houses, churches and other such places.

Four special light camera dolleys for going into very confined spaces are available.

On the sound side the company has three portable microphone booms which are collapsible into two parts.

Four mobile generators, capable of generating 80 kw. are offered for location filming. Three of these units are towable thus dispensing with lost time of a lorry being on the job. The fourth is housed in a large special Dennis lorry, but when it reaches the site it is lowered down a ramp from the lorry thus again saving the cost of a lorry being on the job.

Three lorrys are available for transportation ranging from 30 cwt. for small locations to four-tonner for large. A complete mobile unit is available at four hours' notice to go anywhere for any period.

A special device for lighting in confined spaces consists of extension pieces which fit Multiple HD's standard winch stand and is capable of going to a height of 15 ft. Connected to this are horizontal duralium cross-pieces on which any number of lamps may be fitted according to requirements. This is claimed to be exceptionally useful when no fixing can be made to the walls or pillars and overhead lighting is essential.

In cases such as filming down mines, inside aeroplanes and other limited spaces, special low stands can be supplied to take the lamps. All plugs and sockets are fused and earthed to minimise the risk of fire.

Vapour to the Rescue

Although not designed specifically for film work Tilley paraffin vapour lamps have proved highly successful on difficult location lighting assignments. Recently—as reported in the KINE.—a sequence for a Crown Film Unit production "Atlantic Isle," was lit by the company's AL21 model.

Another model with possibilities for film work is the FL6 with 5,000 mean reflected CP, burning kerosene. Distinct advantages are that the lamps are independent of electric power and there are no cables to place in difficult locations.

Catering and canteen equipment is a speciality of two firms—Greeves Bros. and D. Ellis and Co.

One of the most notable advances in special location gear, has been made on the sound side. British Acoustic, Leevers Rich, RCA, Western Electric and Cine Vox are among the manufacturers who have made big strides in recording equipment or facilities for mobile work.

The Gaumont-Kalee combined recording system has been designed to provide an extremely lightweight portable single film sound recording equipment. Standard sound equipment comprises two transit cases. Type 549 contains: Recording amplifier, type 550; battery pack, type 551; battery cable, type 552; moving coil monitor headset, type 175, and intercom. microphone, type 553.

Type 554 case houses: Two high-quality high sensitivity moving coil microphones, type 547; two microphone cables, 40 ft., type 555; a camera to amp. cable, 20 ft., type 556; set spare valves; set spare batteries; three spare recording lamps, and a camera monitor headset, type 557.

In addition, the outfit consists of a sound-head, type 484, complete with optical system and galvanometer; two 200-ft. microphone cables, type 558; a 100 ft. camera cable, type 559, and a microphone tripod, type 560.

The recording amplifier unit, whose total weight is approximately 12 lbs., uses miniature battery type valves and has two inputs with separate mixer controls and separate input circuit 2-position attenuators. The other controls on the amplifier are a main gain control, a variable low-frequency attenuator, and a monitor phones volume control. Also on the amplifier is the recording lamp current control and recording lamp current meter, the same meter being used as a test meter by means of a multi-position switch. A separate volume indicator meter is also provided.

As one of the main objects of the design is simplicity and lightness, no noise reduction is provided; instead, high-frequency pre-emphasis is used, so that when reproduced with a complementary equaliser, a very good signal to noise ratio is obtained. The overall frequency characteristic of the system, including negative and print, is flat up to over 7,000 cycles. The amplifier measures 14 in. long by 7 in. high by 6 in. deep.

High-quality moving coil monitor phones are provided; a double headset for the amplifier operator and a single headpiece for the camera man. Intercommunication between recordist and camera man is obtained, a microphone being built into the sound-head and a lapel microphone being provided for the recordist. Intercom. signals are mixed with the monitor signals.

Battery Supply

The standard lightweight battery pack, which consists of a number of unspillable 2-volt secondary batteries for the recording lamp and LT supply and dry battery for the HT supply, provides sufficient capacity for shooting 10,000 to 15,000 ft. of film and sufficient LT capacity for over six hours' continuous use of the amplifier, with approximately 50 hours' capacity in the HT battery; the complete battery pack weighs approximately 12 lbs. Two high-quality high-sensitivity moving coil microphones are provided as standard equipment, and a high-quality lightweight ribbon microphone, as well as a special version of the well-known type 493 Cardioid microphone, will be available as extras. Each transit case, complete with its contents as shown on the schedule above, weighs approximately 40 lbs.

The Gaumont-Kalee combined camera is an adaptation of the standard Newall 35-mm. camera; the sound-head unit is attached to the rear of the camera body, and may, if desired, be removed and replaced by a cover plate, leaving the camera quite standard for shooting picture only. The mechanism of the sound-head is very simple and robust, the mechanical filter consisting of a flanged sound drum attached to a solid flywheel and a pair of spring-connected jockey arms. The optical unit produces a variable density sound-track and is precisely located relative to the sound drum so as to ensure correct positioning of the sound track.

Recording lamp is rated at 6 volts 1 amp. and has a filament specially produced for this particular job. It is fitted with a prefocused flange so that no adjustment whatever is needed. A focusing microscope is provided and is arranged to fit inside the sound drum to view the image.

The galvanometer resonant frequency is between 7,000 and 8,000 cycles. The run-up time of the sound-head is approximately two seconds and the flutter content of the recording is less than .12 per cent. and the wow less than .07 per cent.

Designed for mobile as well as studio work the Gaumont-Kalee sound recording system provides variable area recording with noise reduction.

Minimises Backgrounds

Two interesting microphones come from Gaumont-Kalee. The first, the 493 Cardioid, is the lightest cardioid microphone in current use for film production. This microphone which has an excellent frequency response (flat from 50 cps. to 12,000 cps.), also features positive remotely-controlled directivity. In practice this means that at certain positions of this control there is a high degree of cancellation for sounds occurring *behind* the microphone. Dialogue from a principal artist can be selected from a background of "crowd conversation"; and for location work, where incidental extraneous noise cannot be avoided, this microphone minimises such noises simply by placing it with its "back" to the source of noise and using the control. Or again with the control set to "velocity" sounds from the *sides* of this microphone are "switched off," since in this position of the control a "figure-eight" polar curve is obtained.

The second microphone is the 492 dynamic ribbon which, with its built-in line-transformer and "cage" forms a compact unit measuring approximately 4 in. by 2 in. by 2½ in. and *weighing only* 19 *ozs.*, yet with a frequency-response which is flat from 50 to 12,000 cps., and extremely high-quality output.

The 114 mixer unit has three input channels and provides the recordist with exceptionally complete control facilities.

The Gaumont-Kalee volume indicator meter requires no gain-margin when setting up.

The recording amplifier group takes the form of a stack assembly of five units; equaliser, type 82; main amplifier, type 75; noise-reduction unit type 76; monitor amplifier, type 77; and power supply unit type 78 (or type 123).

For location use the monitor amplifier may be omitted to effect considerable reduction of weight and power consumption.

The units comprising the recording amplifier group are equipped with stout clips on the sides; all except the equaliser are recessed on their tops, at the corner, to receive the rubber feet of the units which stand upon them. When the stack is assembled the units are firmly clipped together for rigidity. The four upper units may be lifted as one piece for transportation leaving the power unit to be transported separately and re-assembled at destination.

All connections are of standard quick-release type, and are mounted on the fronts of the units; this feature is particularly useful when the stack is mounted in a vehicle.

Mobile Darkroom

Leevers, Rich and Co. has a sound truck, portable disc recorder, 16-mm. sound-on-film recorder and 35-mm. cameras for hire on location work.

The sound truck is fully equipped for 35-mm. sound-on-film recording, synchronous disc recording and play-back. All power supplies are from an internal storage battery which may be recharged from the engine or from local mains. Three-phase supplies for cameras and recorders is installed and storage accommodation for Vinten model H camera equipment, including blimp, is provided. The

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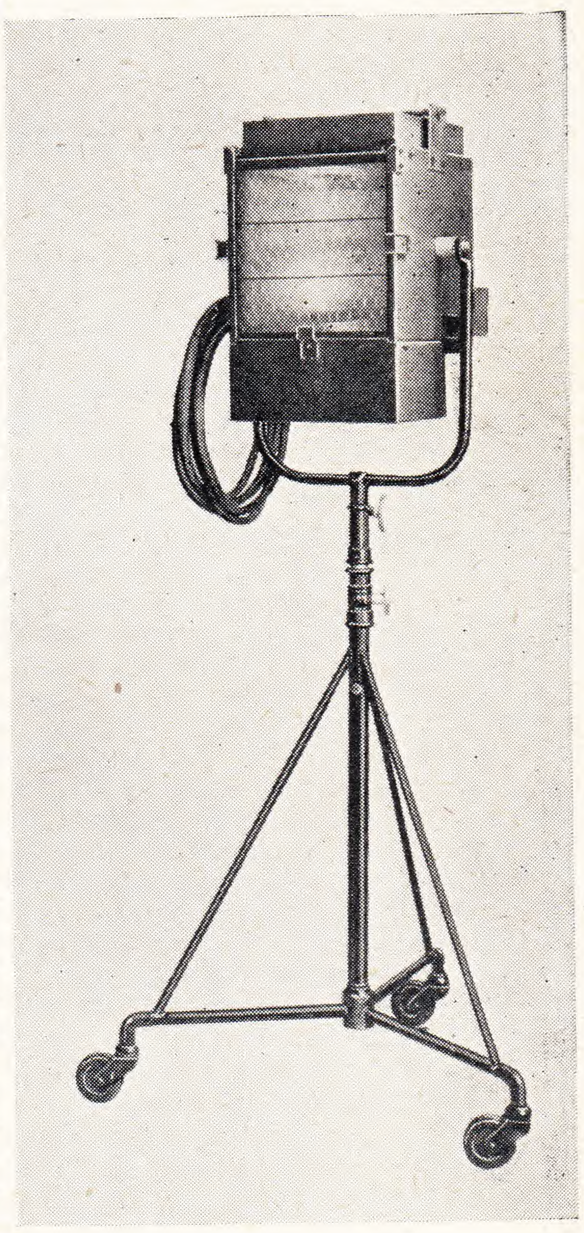

GEC's new compact-source lamp —a successful solution has been found to the intermittent use problem—is obtainable in flood or spot form

G.E.C.

35 AMP (2½ kw) COMPACT STUDIO FLOODS were used for all the "backings" in the Technicolor Film

"Christopher Columbus"

More than 50 of these lighting units were purchased by Gainsborough Pictures (1928) Ltd. for use on this picture.

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A 24-hour service is maintained by GEC with this mobile lighting and generator outfit. The scale of charges has been drawn up to meet all requirements—the minimum daily charge is £10

The Call of the Open Country

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interior is fitted for use as a dark-room and a reinforced roof may be use as a camera platform

Complete sound-on-disc recording channel operating from 12v. storage battery, is provided in the portable disc recorder. Adequate sensitivity for recording all types of wild tracks and guide tracks with excellent fidelity is a feature. Car transport is available for this gear.

The 16-m. sound-on-film recorder consists of the Auricon model 20 with synchronous motor drive 35-mm. cameras available include Vinten model H, Vinten Normandy and Arriflex.

RCA has a mobile recording equipment suitable for studio and location work which is offered to licensees and independent producers on a rental basis. In the near future a new portable film recording channel is to be put out to augment the trucks. In addition, facilities have been established for re-recording and dubbing of all types of 35-mm. film.

RCA is operating a service of making 16-mm. sound film records either by re-recording from 35-mm. film or directly from microphones to the 16-mm. recorder.

Mobile Channels

Western Electric is marketing channels of various types which are particularly suitable for location work.

Type 235, a newsreel recording system, is a single-film recording system. In addition to newsreel shooting it is suitable for certain types of studio location work where extreme lightness and portability is essential. Three main units, together with a number of accessories, form the complete channel :—

RA-1303 amplifier noise reduction unit incorporates the following features—two individually controlled 30-ohm microphone inputs, main amplifier, noise reduction with optimum attack and release times, self-contained 1,000-cycle oscillator, combination noise reduction and recording lamp current meter, volume indicator, special small high-tension generator, high-quality 50-ohm monitoring circuits and headsets.

RA-1304 battery box, which supplies power for the complete recording channel and also for the camera motor.

RA-112B modulator, adaptable to most types of newsreel camera. It houses the RA-1241 magnetically sealed light valve and the 2.15-amp. recording lamp.

Accessories include an RA-1242A microscope for light valve checking, 618 or 630 type microphones and complete complement of cables.

The complete sound system, including all cables and battery, weighs approximately 150 lbs.

Portable by Design

Type 500 is a lightweight recording system designed for portable use. It lays down a standard width track and is capable of producing very high-quality records.

The channel is comprised of the following main components :—

RA-1283 mixer, a small lightweight portable two-way mixer which includes two separate pre-amplifiers with dialogue equalisation in each channel. A volume indicator is mounted in the mixer and provision is made for selecting either "PEC" or "direct" monitoring.

RA-1282 main amplifier. This is a compact unit housing the main amplifier for the channel and also the noise reduction unit. Incorporated in the design are high- and low-pass filters and mid-range equaliser. A 400-cycle test oscillator is included for noise reduction adjustment. A volume indicator and combination lamp current-noise reduction bias meter is provided.

RA-1284 power unit is a portable unit designed to operate from a 110-volt AC source and to deliver all power requirements for the 500 type recording system, with the exception of the motors required to drive the camera and the recorder.

RA-1231 recording machine is an entirely new design and is exceedingly compact and relatively light in weight. It lays down a 100-mil track in the standard position on 35-mm. film and provision can be made for it to record an 80-mil track on 16-mm. film. Incorporated in it is the small two-ribbon magnetically sealed RA-1241 type light valve. The RA-1278 PEC monitoring unit can be incorporated as an accessory. A microscope coded RA-1242 is provided for light valve checking.

Convertible Motor

The motor system for the channel can be either 220-volt 3-phase synchronous, 96-volt DC multi-duty, or 12-volt DC interlock. If desired, the channel can be converted to operate from 12-volt batteries. The system, complete with its cables and accessories, weighs approximately 328 lbs.

Type 435 system, a de-luxe outfit, will record either 100-mil standard or 200-mil push-pull tracks. The type and detail of the individual units may be varied to suit the user. It may be mounted in a truck or permanently installed for studio use.

The mixer may be either two- or four-way, but in both cases individual pre-amplifiers, dialogue and mid-range equalisers are used for each circuit. Each type is provided with a volume indicator and an extension limiter meter.

Two cabinet type racks house the main channel, one rack taking the speech equipment and the other the power equipment. The speech rack includes the RA-1217 limiter amplifier, booster and monitoring amplifiers, high- and low-pass filters, 400-cycle test oscillator, speech-patching facilities, etc. The power rack, which operates from 110-volt AC, supplies the complete power requirements of the channel, with the exception of the motor system.

PEC Monitoring

Included in the system is an RA-1231B recorder which is capable of laying down either a 100-mil standard or 200-mil push-pull track. For 100-mil tracks the RA-1270 two-ribbon light valve is used and for 200-mil push-pull tracks the RA-1238 three-ribbon light valve is used. Facilities for PEC monitoring are included and provision is made for checking the exposure of the two halves of the push-pull track.

The recorder mounts on an RA-1285 type recorder control unit which, as its name implies, houses all the apparatus for controlling the operation of the recording machine. Housed in it are the RA-1260 noise reduction unit, RA-1305 exposure meter, RA-1277 PEC amplifier, recorder lamp controls, light valve equalisers, VI meter, loudspeaker monitoring and motor switching circuits.

The system may incorporate either 220-volt 3-phase sync. motors, 220-volt 3-phase interlock motors or 96-volt DC multi-duty motors for recorder and cameras. The complete system, including all cables and accessories, weighs approximately 850 lb.

Recording Unit

Designed to fulfil the need for a compact — self-contained — yet robust recording unit — the Cine-Vox C7 incorporates several interesting and unique features.

The machine is simple to operate and is capable of producing high quality recordings on standard "blanks" from 5 in. to 13 in. in diameter. These recordings are ready for immediate playback.

The equipment is easily transportable and everything necessary for immediate use is contained within one case measuring 20 in. by 14 in. by 9 in. It comprises the actual recording machine—microphone—amplifier and playback test speaker. All leads and plugs are included. Its weight is 34 lb.

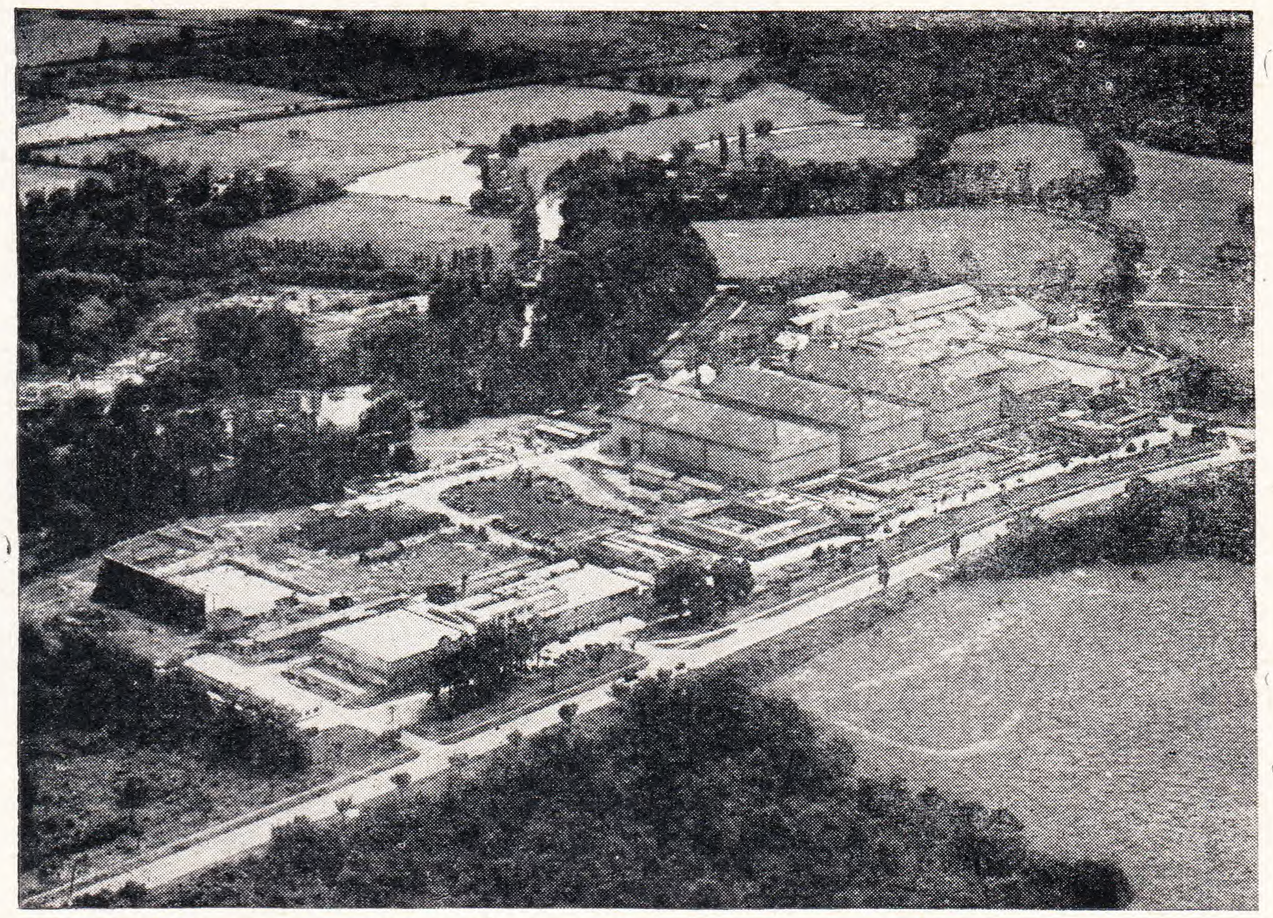
AMERICAN STANDARDS FOR 200-MIL TRACK

Two American standards have recently been issued relating to the double-width push-pull track. The first, Z22.69-1948, relates to the Normal Centreline type; of the two tracks, that nearer the perforation edge can be reproduced on a standard reproducer, since it complies with the dimensions of the normal release track, either for variable area or variable density track.

The second specification, Z22.70-1948, describes a double-width track with offset centre, which cannot be reproduced on a normal sound-head. The advantage of this track over the former type is, of course, that the edge of the outermost track is more distant from the perforations, and therefore comparatively immune from mechanical and chemical effects of the perforations; the centre-line of the normal type is .293 in. from the guided edge, and that of the offset type .314 in.

It seems unfortunate that two conflicting standards, with so little difference should have been confirmed. While the objections to the normally positioned track cannot be overlooked a better alternative than the offsetting of the track by only .021 in. would seem to be the suggestion, emanating from this country, for a double track in the centre of the film.

R. H. C.



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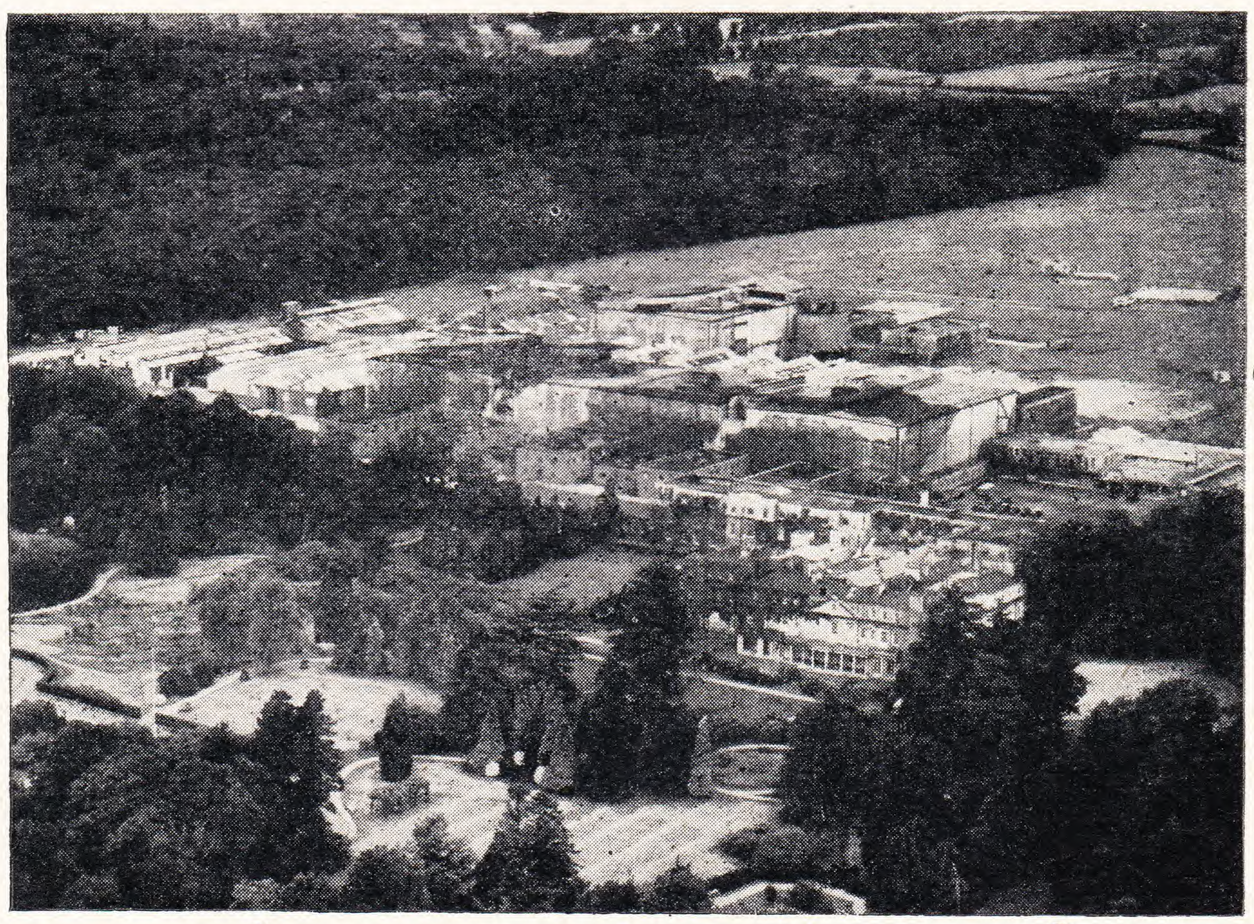
Stop Press Girl Aquila



The Small Studio—Economical Base for the Location Producer

BRITAIN'S SMALLER STAGES ARE KEEPING ABREAST WITH THE NEEDS OF VERSATILE FILM UNITS

CLOSELY associated with location work of any description is always the studio—the base to which a unit turns for its raw material. Invariably, a studio plays a part in the production of a film, even if the physical shooting of that film is carried out entirely in the open air.

"Whisky Galore" drew on Ealing studios for the fitting out of its unit; "Chance of a Lifetime" had prefabricated sets made at the Gate; "Private Angelo" returned to Welwyn studios for a few days of matching shots and special interiors; and most documentaries require at least a few days for interior work, recording sessions or editing.

Apart from housing outgoing or returning production units, most studios, large or small, contribute to location work with the supply of special equipment or services. These range from the single recording truck to the full location train marshalled by Denham and Pinewood studios.

The studios, then, are the base for location film production.

By far the greater number of films made entirely, or within small limits, on location are second features, documentaries, industrial and educational films. To the producers of these types of films, costs are a governing factor. It is to a lower-priced base that they must turn.

The British film industry is well served with small studios to meet all requirements.

MERTON PARK

Within easy access of the centre of London, Merton Park studios have three stages, the main sound, a secondary sound and an insert stage.

The main sound stage, of approx. 4,800 sq. ft. (66½ ft. by 72 ft.) is equipped with a Vinten Everest Mark II or N/C Mitchell camera; Western Electric sound recording channel; Fearless rotating velocilator; metal precision tracks; MR perambulator boom; and Mole-Richardson and GEC lighting equipment.

Approx. 1,200 sq. ft., the small stage has N/C Mitchell or Vinten sync. camera with dolly; metal precision tracks; Western Electric sound recording channel; and Mole-Richardson and GEC lighting equipment.

The insert stage is of approx. 350 sq. ft.

Stage service accommodation includes five star dressing-rooms; four single part dressing-rooms; two large part dressing-rooms; male and female crowd dressing-rooms; spacious make-up and hairdressing accommodation; spacious wardrobe accommodation, and production offices.

A large part of this accommodation is being extended and modernised and will be completed at the end of next month.

In the sound recording department, five Western Electric sound channels, including two fully equipped mobile sound trucks and a blimped Wall/Western single-system equipment are installed. The dubbing and scoring theatre is fitted with a 200-mil push-pull system with six dubbing heads; reverberation unit; synchronous disc recording and play-back facilities.

Work on the modernisation of this theatre is nearing completion. It will be acoustically improved and refurnished. A recording theatre is provided for commentary, post-synchronisation and effects work.

Fifteen fully equipped cutting rooms and air-conditioned negative cutting rooms are available.

Lighting is AC as required and DC current up to 300-350 amps. There is a 90-kw. 120-volt DC diesel electric generator.

A modern canteen is under construction.

Merton Park Studios and the Film Producers' Guild employ the following staff:—

	Merton Park Studios	Film Producers' Guild
Technicians	55	50
Construction	25	—
Clerical	30	45
	110	95

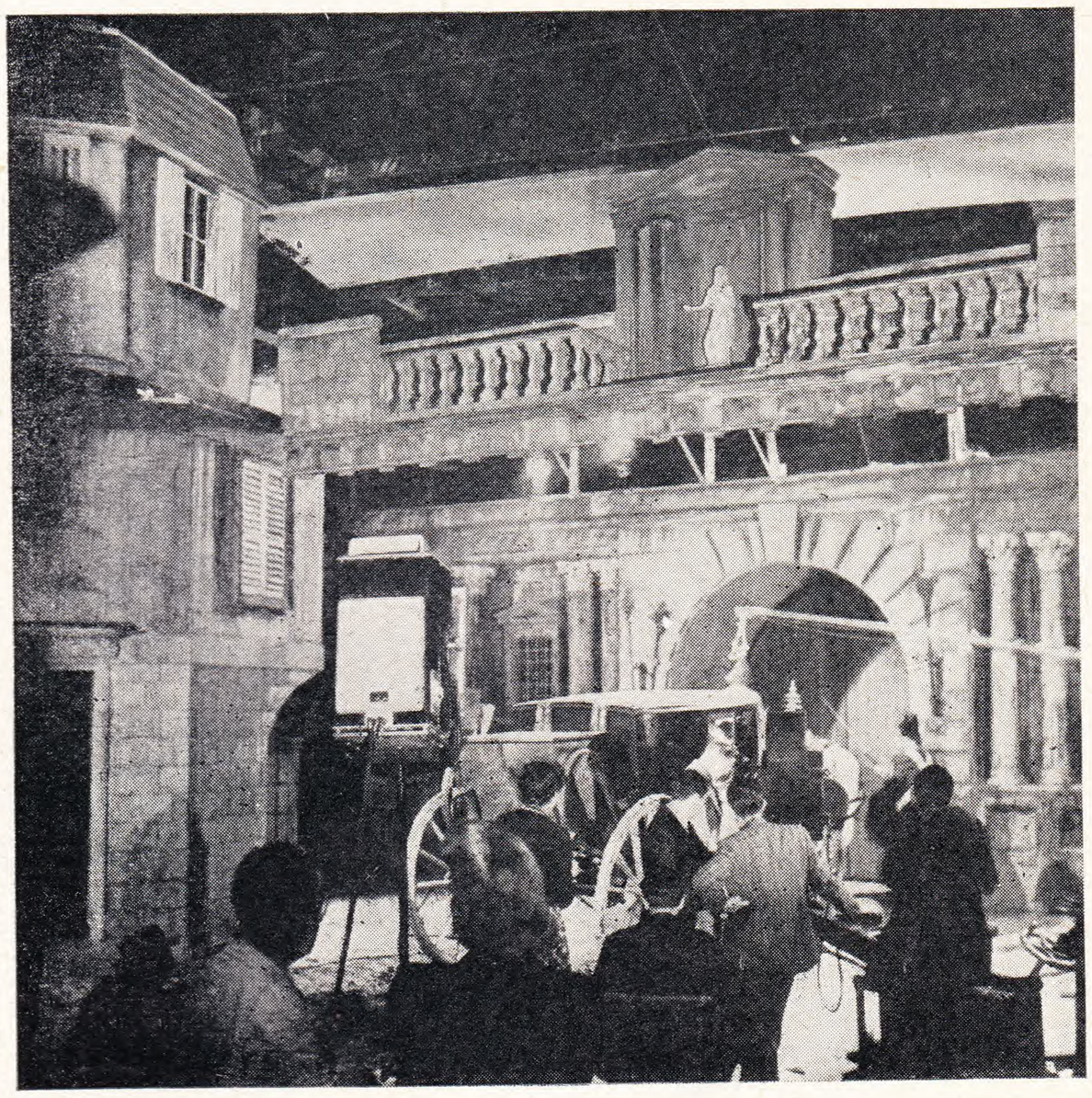
In addition to studio services, Merton Park has available the following location facilities: Two Western Electric channels installed in sound trucks; Wall/Western single-system camera, complete with blimp; and MSS model location disc recorder and play-back.

Camera equipments are: Mitchell N/C (sync.); Vinten model (sync.); Debrie Super Parvo Model U (sync.); Mitchell Standard (non-sync.); Bell/Mitchell (non-sync.); Newman Sinclair (Model G Gate); "Fearless" velocilators; assorted dollys and tracks; assorted tripods and rolling legs; camera miscellany of all sorts.

Lighting equipment for location work comprises Mole-Richardson and GEC gear; 90-kw. 120-volt DC diesel electric generator mounted in Brockhurst WD trailer.

In the last year, Merton Park has been the centre for the following films:— Own productions: 39 specialised subjects with a total cut length of 34,035 ft., and two features or featurettes with a total cut length of 8,507 ft.; outside producers' films: 87 specialised subjects with a total cut length of 45,164 ft., and five features or featurettes with a total cut length of 33,475 ft.

Among the feature films produced at Merton Park were "Trapped By the Terror," a G-B Children's Entertainment film; "The House of Darkness" for British Lion; "The Case of Charles Peace," release by Monarch, and "The Gorbals Story" for Eros.



At Merton Park studios, home of the Film Producers' Guild, work is nearing completion on the modernisation of the dubbing theatre and the extension of dressing-room facilities

CARLTON HILL

The Kay Carlton Hill studio consists of a soundproofed stage of approximately 1,500 sq. ft., fully equipped with lights, sound and silent cameras, camera dollys, tripods and sound booms.

Sound system is RCA, with one of the latest channels, and is equipped for four-way dubbing and all types of recording and re-recording. Both standard and four push-pull reproducer heads are installed. Two disc channels and turntables are fitted in the theatre.

The studio has its own carpenters' and paint shops, fully staffed, dark rooms, dressing-rooms, make-up rooms, and a large, fully equipped cutting room, including two moviolas, synchroniser and all cutting equipment.

In the last 12 months the studio has been booked for recordings, music sessions and dubbings for all types of films, and has been used for the production of six shorts. The last feature films made at Castle Hill were "The Monkey's Paw" and "Vengeance is Mine."

A staff of 15 is directly concerned with film production.

Location facilities offered by Kay Carlton Hill Studios include two mobile electrical generators which can be used individually or coupled to produce alternative outputs of 250 or 500 amps. These are electrically operated, diesel-driven, Lister generators, and specially mounted on chassis for speedy travel and easy working.

There is also available through the studio a 1949 RCA sound truck with full crew, giving first-class studio result either on location or for internal working in houses or studios, and a camera truck built to take any equipment required for location filming, such as cameras, accessories, lights, crew, etc.

A feature of the studio and its equipment is its compactness—the whole unit being designed for fast, accurate work with a minimum of delays or interruptions to production, at the same time giving the quality of major studio facilities.

WINDSOR STUDIOS

Windsor studios in Cursitor Street, E.C.4, has two stages: 56 ft. x 30 ft., with annexe 26 ft. x 20 ft.; 22 ft. x 26 ft.

Equipment includes a Mitchell N/C camera, Vinten Pathfinder velocilator, royalty and non-royalty studio and mobile sound channels.

A complete range of Hewitt studio lighting equipment is installed.

Two mobile 16-KvA. generators are available and the studio has a full stills service with dark room and equipment.

Five advertising shorts, two documentary films and a training subject have been made at Windsor over the last year.

Dressing-room accommodation

Continued on page 19

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The Small Studio—Economical Base for the Producer

Continued from page 17

has been extended to five rooms, make-up, hairdressing and wardrobe rooms and renters' office.

Normal staff at Windsor consists of a sound crew of three; two on the cameras; four carpenters; two painters; two electricians and prop. and grips men.

BLACKHEATH UNIT

Blackheath Film Unit at Leatherhead has a small studio available for hire, suitable for mute shooting of small scenes. Equipment includes adequate lighting for 35-mm. and 16-mm. and set-construction facilities.

Camera units are Newman Sinclairs and Eyemos (35-mm.), Bell and Howells (16-mm.)—available with crews for studio, location or newsreel work.

Cutting-room facilities with staff and projection are for 35-mm. and 16-mm. The studio offers also disc and tape-recording units, public address outfits, and mobile 16-mm. projection units.

There is an optical enlargement service for 8-mm., 9.5-mm. and 16-mm. to 35-mm., a complete film production service, a full filmstrip production service and facilities for industrial and specialised photography and kinematography.

MARYLEBONE

Floor space at Marylebone studios is spread over two sound stages, giving a total of 2,690 sq. ft.

The newly-constructed and equipped services include eight dressing-rooms, a make-up room and two production offices.

Technical equipment includes a mobile sound recording truck, Vinten cameras and Mole-Richardson and Beard lighting equipment.

A staff of fourteen technicians is employed.

During 1948-1949 the following films were made at Marylebone:—features: "Dick Barton at Bay," "Made For You" (instructional); featurettes: "England Has a Heart" (colour), "Call of the Land" (colour), "The Pilgrim's Way" (colour), "England's Borders" and "The English Way."

ELM PARK

Elm Park studio is situated at Pinner Green, 40 minutes from the West End of London. The surroundings provide ample facilities for location work and the studio itself is situated in a quiet spot.

The outside length of the studio is 42 ft. and 27 ft. wide, with an outside height of 15 ft. There is provision for lighting up to 30 kw and it is equipped with modern Hewitt studio lights.

There is Vinten camera with velocilator and all necessary equipment. Arrangements are in existence for either royalty or non-royalty sound, but there are no facilities for re-recording.

Ample dressing-room accommodation, complete facilities for set building, camera crew and floor technicians, including continuity and make-up are available.

The following featurettes and shorts have been made over the last year:—"Spirella Story," "Irish Melody," "Distinguished Company," "Forward to Service," together with a number of shorts for Dreft, cancer campaign and Shell.

PAIGNTON

Paignton studios possess two stages: stage No. 1 is 100 ft. by 54 ft. by 40 ft. high (with tank 48 ft. by 18 ft.) and stage No. 2, 130 ft. by 30 ft. by 20 ft. high.

Among the facilities are a preview theatre, recording theatre, three cutting rooms, make-up and hairdressing rooms, dressing and bath rooms and workshops

Generators provide an output of 300 kw. at 120 volts and there is a mobile generator with an output of 100 kw. at 120 volts.

Equipment includes RCA sound, Newall camera, Mole-Richardson lighting and Acmade cutting room equipment.

VIKING

The Viking studios at Kensington have three sound stages measuring 40 ft. x 26 ft., 35 ft. x 26 ft., 27 ft. x 26 ft. The two larger stages have intercommunicating doors.

A production office is adjacent to the stages.

Electricity supply is of about 200 kw. at 230 volts, 50 cycles AC, and also a DC supply of about 200 amps. at 110 volts for arcs.

The incandescent lighting equipment includes: A 5-kw. Mole-Richardson Senior solar spot; 12 2-kw. Mole-Richardson Junior solar spots; six 500-w. Mole-Richardson Baby solar spots; two 500-w. GEC spots; and four 500-w. Beard spots, with cans, bashers, overhead banks, snoots, barndoors, diffusers and niggers. There is also a 120-amp. high intensity arc (Mole-Richardson).

The studio has a seven-way contactor truck with remote control.

Special terms are quoted for the use of Viking's lighting equipment on location for pictures made at the studios.

The camera equipment consists of: Newall studio camera, with six Taylor-Hobson-Cooke "Speed Panchro" coated lenses (25, 35, 40, 50, 75, 100 mm.), blimp, standard and baby tripods, "top hat," synchronous and wild motors and other accessories; a Debrie Super-Parvo studio camera with five Cooke lenses (35, 40, 50, 75, 100 mm.), standard and baby tripods and other accessories; a Newman Sinclair Model "E" camera, with additional provision for gate-focusing, six coated lenses (25, 32, 40, 50 and 75 mm. Taylor-Hobson-Cooke "Speed Panchro" and 6-in. Ross Xpres); also four magazines, changing-bag; tripod and a wide selection of filters; a Newman Sinclair camera with four lenses (1½ in., 2 in., 4 in., 6 in.), light tripod, three magazines and other accessories.

A GB-Kalee revolving platform Velocilator is installed with a Newall rolling tripod, and a light gyro-head tripod for the Newman Sinclair camera.

The studio is equipped with Viking sound-recording apparatus which is royalty free.

The system, which is of the variable density type, was originally designed by Viking in 1938. Two new models of the recorder have been brought out. There are two recording channels in addition to the location recording equipment described later.

Synchronous projection on to the larger of the stages is available for post-synchronising dialogue and for music recording to picture. The recording apparatus includes synchronous disc-cutting equipment for play-back purposes.

The studio is equipped with three-way dubbing facilities. Microphone boom is the latest Mole-Richardson type.

In addition to the two studio installations, Viking has a highly portable location recorder which is battery operated and is capable of driving two picture cameras in sync. with its own sound camera.

Technicians employed at Viking are: four sound recordists, a camera assistant, a construction supervisor and buyer, an assistant art director and draughtsman, three carpenters, two painters, two electricians, a property man, two stage hands, a grips, and a floor supervisor.

The studio has dressing-rooms, make-up room and bath room. There is a canteen for serving light refreshment.

AB-PATHE

Suitable for second features, documentaries, educationals and screen tests, is the claim for the rebuilt Associated British-Pathé studios at 103, Wardour Street.

As reported in the KINE. of June 16, the RCA recording installation caters for both 35-mm. and 16-mm. gauges. A PM45 model recorder is installed for 35-mm. work. It operates with a bias galvanometer.

For 16-mm. work there is an RCA model PR32 recorder—the first of its kind to reach this country. Forward and reverse movements are controlled by one switch, and it will record negative for contact work or direct positive.

Post-sync. work with the Ross projector can be either to picture on the screen or through the special preview device.

An RCA 10,001 microphone is in use in the studio.

Walls and ceilings of the sound stage, which measures 42 ft. by 44 ft., with a height of 23 ft., are treated with 4 in. of rock wool, and a double floor has been laid to wipe out reverberation.

Lighting with duo arcs, solar spots, babies and 120's total 1,000 amps. DC—sufficient for colour.

Cameras are Newall, with velocilator-type dolly and Debrie super-Parvo.

Dressing-rooms and reception rooms are also available.

Provision is made to link mobile sound tracks with the studio.

Although Associated British-Pathé has drawn up a long-term production programme for this compact studio, it has left open certain periods for bookings by other than Associated British producers.

REDUCING FLOOR TIME—Continued

with no more time wasted than is needed by the director of photography to check the work of his subordinates. The first crew then sets up for another take.

I can foresee one objection that will be urged against this proposal: that the director needs time to consider the next set-up, to consult with and instruct the artists. But the essential of any systematic method of production must be that all the mental processes take place before shooting commences: director and artists must come on the floor with an exact knowledge of what they have to do.

I should add that of a number of studio people with whom I have discussed this rather elementary proposal, 80 per cent. were opposed to it—but all for different reasons: the disinterestedness of technicians in effecting economies, the difficulty of adequate pre-planning, union problems, the fact that the director of photography would not trust a duplicate crew. Such objections could surely be ironed out—except the first, which I suspect is the crux of the problem.

While I.F. turns out films to an eight-week schedule, we hear of ten weeks being spent on a single set. This is where production costs can be and must be cut.

RANK FILMS SELL IN AUSTRIA

The rapid strides made in the Austrian market by Rank Organisation product is exemplified by an impressive line-up of subjects due for presentation in Vienna, Graz, Salzburg, Linz and Innsbruck within the next few months.

JARO pictures booked for screening in these territories include: "Hamlet," "The Red Shoes," "Henry V," "Scott of the Antarctic," "The Blue Lagoon," "Sleeping Car to Trieste," "Look Before You Love," "My Brother's Keeper," "The Man Within," "Woman Hater," "Eureka Stockade," "Once a Jolly Swagman," "Saraband for Dead Lovers," "Cardboard Cavalier," "The Passionate Friends," "The Bad Lord Byron," "Train of Events," "Adam and Evelyne," "A Boy, a Girl and a Bike," "The Calendar," "So Well Remembered," "Madness of the Heart," "Blanche Fury," "Once Upon a Dream," "Green for Danger," "Broken Journey," "Black Narcissus."

(*Elstree*)

"The Dancing Years" (A B P C) location

Producer, Warwick Ward; director, Harold French; production manager, W. A. Whittaker; director of photography, Stephen Dade; first assistant director, Gordon Scott; second assistant director, David Peers; third assistant director, Charles Rogers; continuity, Daphne Heathcoat; producer's secretary, Helen Letchford; set dresser, H. James; accounts, W. H. Lock; camera operator, Norman Warwick; focus, Ian Craig; Technicolor technician, John Tiley; clappers, G. E. Anstiss; camera grips, Richard Cane; sound recordist, Cecil Thornton; sound cameraman, C. Benson; boom operator,

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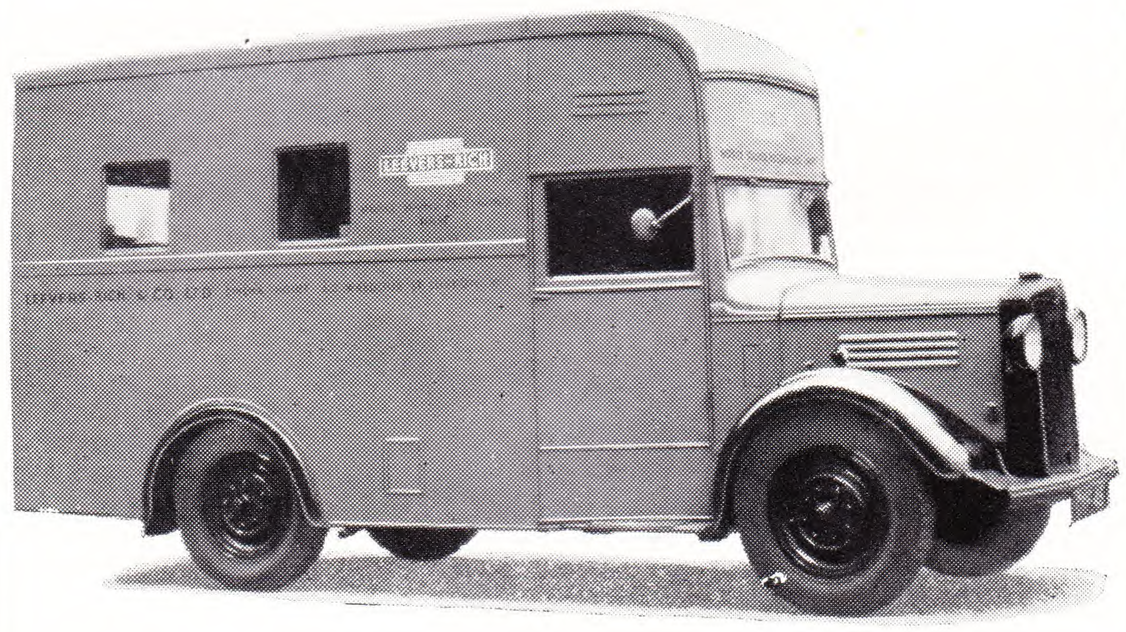

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MAKE THE WORLD YOUR AUDIENCE

Films Must be Made with an International Appeal. Not only the Prestige but also the Commercial Success of British Films are Bound Up in the Proper Appreciation of this Position—*says ROD GEIGER*

EVERY ten years, it seems, the film industry faces a major crisis. In the late 'twenties sound came along to revitalise flagging business. By 1939 it was again in the doldrums but, conditions generated by World War II rocketed film entertainment to fresh heights. Now, at the close of the 'forties, the industry's graph line is again at a low level.

It is obvious, according to Rod Geiger, producer of the universally acclaimed "Open City" and the much-praised "Paisa," that there are definite cycles in film production methods.

Geiger, who is now co-producing "Give Us This Day" with Nat Bronsten at Denham, believes that the current slump in British production can be overcome if producers make a pre-planned approach to the production of "international films." His definition of "international films" is simply "films with an international appeal," but on their conception and significance he has much to say.

"A film," he says, "has international appeal when it contains the basic qualities of human problems; the personal experiences of men and women, whether they be in New York, London, Paris, Hong Kong or Moscow. They all have a common denominator of appeal to world kinemagoers. What is more, the correct formula will build fresh audiences."

Limitless Material

One of Geiger's strongest arguments is that life, the essential factor, offers limitless material for all types of subjects from comedy to stark tragedy. With these resources at his call, all that is required of the producer to make a film that will appeal to audiences throughout the world is concept—the power to treat his subject in a manner which will not localise interest.

"It doesn't matter," he will say, "if the action is centred in Rome or Budapest. The fact that you are dealing with a human problem, or reflecting an experience from life, will appeal to men and women throughout the world, provided its presentation is authentic."

To emphasise his argument, Geiger instances "Open City," which, made to an international formula, commanded vast audiences outside Italy, its country of origin. In the same way, "Red Shoes" cemented the new intellectual markets opened up for British films by pictures such as "Henry V."

Geiger readily agrees that the concept of international-type films is not new. Films such as "This Happy Breed" and other war-time subjects were examples of mirrors of life, but he contended they only happened. They came out of chaos—the war years proved that.

What Geiger is anxious to see is a designed policy of the production of this international type of film in large numbers.

To-day, that purpose is essential to the industry's welfare and, continues Geiger, fortunately the stage is set for its adoption. A reintroduction of individualism in the production field is one of the most heartening signs.

Production, he maintains, is undergoing a minor revolution. The big combines are giving place to the independent producer—a condition which is conducive to a resurgence of the artistic traits in film making and, therefore, encouraging to the individualism which he contends is necessary for the production of subjects with an international appeal.

The Creative Side

Geiger places emphasis on the fact that the film is the only art international in itself—the creative side is not restricted to any one group. "And that," he says, "accounts for one of the criticisms which may be levelled at the British film—your industry is not so international as that of the United States. On the other hand, British technicians have not been spoiled by the mass-production methods, which is one of the biggest barriers to creative achievement."

While it might have been assumed that a wider exchange of technicians between the major film-producing countries would have been an important factor in the establishment of the international theme, Geiger considers that this is not necessary although he admitted the possible advantages which might accrue to a more extensive reciprocal scheme enabling technicians to study production methods in other countries.

Yet, notwithstanding this lack of international experience, Geiger declares "that the Denham technicians engaged upon 'Give Us this Day' are wonderful. They have captured an atmosphere of New York which could not have been bettered in Hollywood," he asserts.

Technicians Praised

This tribute to British technicians gives another slant to Geiger's international film theme —"technicians the world over are good." But the producer must expect to play his part. "Tell the people who are working with you," he says, "exactly what you are doing so that they can understand what is aimed at and so become personally interested in the job in hand."

Although film production which ignores the parochial in favour of a wider appeal is not a new policy, Geiger submits that the time is ripe for a full-scale development of the principle he has adumbrated. Indeed, he claims that his trio of pictures—"Open City," "Paisa" and "Give Us This Day"—represents a cycle of films which are the first to be pre-planned on this basis. They indicate a new conception of production which should be heeded by independent producers.

"There must always be," he adds, "a certain proportion of product aimed at the purely domestic market. But for the sake of the industry—whether it be in Britain, in America or throughout the world—pictures must be made with a much wider appeal. Not only the prestige but also the commercial success of British films are bound up in the proper appreciation of this position."

International Flavour

Geiger intends to adhere to his theories. He plans to make a version of Robin Hood which, he says, contains all the elements for a successful international screening—real people, humour and history.

A postscript to this international theme comes in the form of currency barriers operated to-day by many countries. In the opinion of Geiger, the freezing of film returns by governments is only a temporary expedient. In any case, he says, the biggest money provider, the United States, is open to all.

"Make money in the film's country of origin and more in America" is his advice.

THE MAN AND HIS WORK

ROD GEIGER, 33-year-old co-producer with Nat Bronsten on "Give Us This Day" at Denham, started in the film industry in the immediate pre-war years as a publicity man in New York for foreign films. Later, he started a distribution company, French Cinema Centre, to market award-winning Continental subjects.

In the war years he founded a public relations department at General Motors to explain to workers by means of the film, the results of their efforts in production.

He is proud of his Army rank, Private First Class, and values a souvenir of his production influence on "Open City" and "Paisa"—a cutting of his portrait in an Italian newspaper with the caption, "From PFC to Movie Mogul."

Denham Working at Peak with Five New Productions

WITH an early start scheduled for Walt Disney's "Treasure Island," Denham Studios are working at top pressure, with five new productions before the cameras.

John Mills is producing D. H. Lawrence's "The Rocking Horse Winner," with John Howard Davies, Valerie Hobson, Ronald Squire and Mills himself. Anthony Pelissier directs.

Edmond Greville is directing "The Romantic Age" for Pinnacle Productions, with Mai Zetterling, Hugh Williams and Petula Clark.

"Boys in Brown"—a drama of the Borstal Institutions—is being produced by Antony Darnborough, with Richard Attenborough, Jimmy Hanley, Dirk Bogarde and Jack Warner.

Plantagenet's "Give Us This Day," directed by Edward Dmytryk, stars Sam Wanamaker, Charles Goldner, Lea Padovani, Kathleen Ryan and Bonar Colleano.

"Treasure Island" is taking shape and work will gather momentum now that Walt Disney has arrived here from Hollywood. On the studio "lot," pre-production filming is in progress.

Unit offices still survive from "The Chiltern Hundreds" and "Diamond City," and preparations are in hand to house the "They Were Not Divided" unit when it returns from German location.

The shell of the new Independent Frame stage is taking shape adjoining one of the big studio floors.

"Landfall"

With the exception of certain important location sequences, the production of "Landfall" has been completed. Last week the Associated British unit wound up the remaining studio work, and started on preparations to move off for a southern county location.

1949

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Magnetic Recording May Supply the Answers to Many Location Problems

DIRECT RE-RECORDING ON FINAL NEGATIVES WOULD OBVIATE NEED FOR MAGNETIC TRACKS ON RELEASE PRINTS

MAGNETIC recording — its technical merits, the advantages and difficulties of using it in the studio—were discussed at a joint meeting of the BKS and the British Sound Recording Association. Norman Leevers, B.Sc., FBKS, asserted that it would be advantageous for primary recordings in the studio and on location; Dr. O. K. Kolb, MBKS, showed specimens of magnetically coated film; A. Tutchings, of the Tele-communications Research Establishment, discussed its technical characteristics.

"Magnetic recording," stated Norman Leevers, "promises a noticeable improvement in sound quality, also—and this is perhaps even more valuable—it permits immediate playback from the master track itself even while recording, and without risk of deterioration."

Two Methods

He suggested two methods in which magnetic recording could be used in the studio. First, the primary recordings only could be made magnetically, the chosen takes being re-recorded on to photographic film for editing and mixing. Secondly, if the difficulties of handling the film in the cutting room are satisfactorily overcome, the original magnetic tracks may be cut and edited and re-recorded directly upon the final release negative. It is not contemplated that release prints should carry a magnetic track.

Magnetic tape is already in use for "wild track" recording, and as perforated magnetic film and the machines to use it become available, it may be further adopted. In primary recording the mixer may be glad of any added volume of frequency range, since in each stage of re-recording the resultant signal-to-noise ratio is reduced. The complete change-over of equipment may take some considerable time, but the transition may be assisted by fitting magnetic modulators to existing film recorders.

1898 Invention

Dr. O. K. Kolb recalled that magnetic recording had been invented in 1898 by Valdemar Poulsen, but while as soon as the thermionic valve appeared, disc and photographic recording went quickly ahead, little progress was made in the field of magnetic sound until just before and during the war German and American research raised the standard of the new medium to a very high level.

The use of the Magnetophone tape for the film industry is impracticable because it presents no method of achieving syncronism with the picture. It would be necessary to coat the magnetic material upon standard perforated film stock, preferably acetate; the thickness of the coating is about half to three-quarters of a mil.

Coating can be of two types: the compound may be coated over the sheet of base material before slitting and perforating—an objection is that the ferric-oxide constitutes a good abrasive and wears the perforator punches; or the film may be coated after perforation. Dr. Kolb handed round examples of both types, the latter type having coatings of various widths, and including also 16-mm. and 8-mm. films.

A practical point to which he drew attention is that in the case of a narrow coating the width of the normal sound track, difficulties are experienced in reeling due to the greater thickness at one side; he suggested a dummy coating on the opposite edge. With 35-mm. film the frequency response can be kept flat from 50 c/s to 10,000 c/s, with 16-mm. to 5,000 c/s, and with 8-mm. to 3,000 c/s. Noise reduction in recording is not necessary, a volume range of 60 db. being obtainable.

A practical problem is that, since the recording is quite invisible, the editor or cutter will not know where to put his scissors when cutting the magnetic track to synchronise with the picture film. The editing machine can be easily adapted to read the track, or the modulations could be displayed upon a cathode-ray tube.

Checking Modulation

It is, however, still preferable for the editor to be able to see the modulations. Dr. Kolb handed round another frame containing specimens of four methods of making the modulation visible. Three of them consisted in recording the envelope of the sound upon an adjacent white-painted strip, either by ink or by a chemical reaction between the zinc oxide of the coating and the bronze of the stylus. The fourth example had been subjected to a "magnetic developer"—a solution containing very small magnetic particles which were attracted to the energised portions of the oxide layer; the last, however, was of value chiefly in checking azimuth —it appeared later in the discussion that the magnetic particles spoilt the quality of sound and, further, they could not be erased with the recording.

Dr. Kolb showed slides of British Acoustic recording and reproducing equipment converted for handling magnetic tracks. He referred to the wear upon the magnetic heads, due to the rubbing of the abrasive coating; the life of a head was about 300 hours. One practical difficulty was that, owing to the thickness of the magnetic coating, a normal 2,000-ft. spool would not hold 2,000 ft. of magnetic film.

A. Tutchings introduced a discussion of the technical aspects of the process by illustrating, with reference to the B-H loop of the material, the meanings of the terms coercivity—the opposition to any change of magnetism—and remanence, the factor affecting the retention of magnetism. He explained the need for biasing, and the advantages of HF biasing over the formerly used DC; the frequency used is so high—35 to 80 kc.—that several complete reversals of field take place while any particle of the tape passes over the gap.

Frequency Losses

The playback response of a constant-current recording showed a rise of 6 db. per octave at low frequencies; at medium frequencies the de-magnetisation effect levels off the response. It is standard practice to pre-emphasise the high frequencies in recording, so as to cancel losses due to gap width and de-magnetisation. Due to the high energy carried by the lower frequencies it is necessary to make good the losses in the playback amplifier.

Three types of recording surfaces are available. The red-coloured gamma ferric-oxides, Fe_3O_4, have low coercivity and low remanence: black magnetite coatings have high remanence and high coercivity, while a third class of coating, usually black in colour, uses a sintered permanent magnet alloy, giving high coercivity and a remanence equivalent to the first type.

A typical magnet head is built up of two semi-circular stacks of .004-in. high permeability laminations, each carrying a coil of 250 turns; the bottom gap is 12 mils and the top gap 1.5. The coils have an impedance of 600 ohms at 1 kc. For a speed of 18 in. per second it is an advantage to reduce the recording gap to 0.5 mil. With HF erasing and biasing the tape noise should be 45 to 50 db. below mean programme level. Particular attention must be paid to the system noise.

Practical Problem

W. Bland raised a practical problem—the wear likely to be caused on film path components by the magnetic material; he mentioned that he was already using a magnetic recorder for monitoring newsreel commentaries.

Someone else mentioned the problem encountered with the thin broadcast tapes of transfer of signal between adjacent layers; Dr. Kolb stated that no trouble was experienced with the thicker film base. He assured another speaker that pick-up from the driving motor could be avoided by screening, although a third speaker mentioned that if the spool of film were left in a 50-c/s field, the recordings might become erased.

Dr. Kolb explained to R. H. Cricks that the effect of wear upon the magnetic heads was generally to widen the gap and so alter the frequency response. He informed other speakers that while experiments had been made with the heads slightly separated from the tape, this was not generally practicable. He also stressed the fact that the friction of the heads had no effect upon the constancy of speed of the scanning drum.

Replying to a reference to the bass cuts in 16-mm. and 8-mm. film, A. Tutchings explained that it was desirable to equalise the cuts in bass and treble, otherwise the sound became boomy. He assured L. H. Bacon that recordings were completely permanent during play-off or storage; in the States, tests had shown that the volume level dropped only 1 db. for several thousand playings; Dr. Kolb mentioned that German recordings five years old showed negligible losses.

Storing Tracks

Baynham Honri raised the question of the need for storing the original sound recording; Dr. Kolb pointed out that several tracks could be recorded simultaneously, one for storage and others for editing.

To a question on the need for blooping film joins Dr. Kolb stated that magnetic paint could be used. He refused to commit himself on the question of cost of stock. He told Dr. L. E. C. Hughes, the chairman, that clappers could be used for synchronising, just as with photographic recording. Replying to W. Bland, he said that, while sprocket-hole modulation was rarely troublesome, difficulty was experienced on 8-mm. film.

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A DAY AT GEC's RESEARCH LABORATORIES

Feature of New Compact-Source Discharge Lamp Which Attains the Enormous Rating of 25 kw.

THE compact-source discharge lamp started life as a substitute for the smaller types of projection lamp—the model first available was rated at 250 watts. Facility in handling the quartz bulbs, and intensive research on air-tight seals permitted larger sizes to be made, until today 2½, 5 and 10 kw. bulbs are in regular use in the film studio.

A lamp now in development at the GEC Research Laboratories and displayed to visitors to the Vacuum Physics Laboratory on the occasion of last week's conversazione, attains the enormous rating of 25 kw. In appearance it is almost identical with previous types, but, of course, larger. There is, however, one important difference: the seal, instead of being constructed of thin strips of metal welded into the glass, is of more orthodox type—to all appearances merely a metal rod extending through a glass tube.

This simple appearance belies the intensive research work which has gone into its development. Obviously a seal consisting merely of a metal rod inside glass would not for long remain air-tight, because of the different expansion and contraction rates of the glass and metal, which has always formed the chief problem in seal construction. The actual seal comprises a very thin washer of molybdenum.

In manufacture, a washer is stamped out, and is then etched in acid until its periphery tapers to a knife-edge. It is then soldered to the conductor—a tungsten rod about 3/16 in. diameter. The rod is inserted in the glass tube, which will afterwards be welded to the bulb, and over the washer is slipped another glass tube, bell-mouthed to accommodate the washer. In a vacuum, the glass is melted until the washer is embedded in solid glass. Its thin edge overcomes the problems of differential expansion and contraction.

Tests have shown that the seal, notwithstanding its comparative simplicity, is exceedingly reliable. It will not, however, be seen in actual use until further life-tests have been completed.

In the same laboratory was shown the development of circuits for the automatic control of compact-source lamps, providing for automatic simmering and hot re-starting. In the Illumination Laboratory these lamps and control circuits were seen built into studio lighting fittings; in these, the control circuits automatically interlock the simmering with the shutters forming the oven, since, if the lamp were to be simmered with the shutters open, it would probably go out, while if it were burnt at full power inside the oven it would become over-heated.

In a neighbouring display frame were examples of Technicolor and Ansco Color films, comparing the colour rendering of arcs and compact-source lamps—the latter, of course, of the mercury-cadmium type. In normal sets it was impossible to detect any but the slightest differences between the two, but in the Technicolor colour charts slight differences in rendering were observable in the pink and green ranges.

In the Kinema Gallery were displayed a number of experiments for measuring the noise level of carbon arcs. Dr. F. S. Hawkins demonstrated that the injection of even a few millivolts of A.C. into a D.C. arc caused an audible note in the frequencies above 500 c/s. The lamp was even made to reproduce a gramophone record.

In a sound-proofed room a three-electrode studio arc was set up for the recording of its noise, the results being displayed on the screen of a cathode-ray oscilloscope. Thanks to almost perfect smoothing of the supply the lamp inside the room was almost inaudible (the feeding motor made more noise than the arc itself), and on the oscilloscope screen showed an almost perfectly regular background of noise at very low level.

Very much the reverse was the 1,200 amp. arc, which was developed during the war for use in the noses of aircraft. Its noise was deafening and its light blinding.

A studio photometer which is still in the development stages indicates the brightness of various areas of the scene by means of a curve on a small cathode-ray tube. A remarkable photometer, used for the measurement of light sources at long distances, is capable of linear response over a range of 100,000 to 1; it was mounted at the far end of a 1,500 ft. range used for measuring the light distribution of searchlights and aerodrome lights.

In a second vacuum physics laboratory was shown a small recording tube, for variable-density film recording. Its electrical characteristics make it particularly suitable for use in circuits employing noise reduction.

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TWO NEW MOLE-RICHARDSON COMPACT-SOURCE LIGHT UNITS

A Spot and Flood of Up-to-the-Minute Design

By R. HOWARD CRICKS, F.B.K.S., F.R.P.S.

THE principal advantage enjoyed by the compact-source lamp over the arc is that it can be left to run for considerable periods unattended. A logical advance is the design of equipment entirely remotely controlled, so that a bank of lamps can be hung from the roof or supported on high parallels, and controlled entirely from the floor.

This is the principle behind the design of two Mole-Richardson compact-source units—a spot and a flood, which C. G. Heys Hallett and H. K. Bourne demonstrated to me on the occasion of a visit to the recently extended factory at Acton. The former, because of its skeleton-like appearance, has been christened "The Spectre," while for the flood there could be only one name—"Dumbo," by reason of its rear view.

"The Spectre" contains either a 5- or 10-kW. compact-source bulb; with the latter it is capable—in part, thanks to the use of a metal mirror—of a greater light output than the MR170 arc, from which the colour of the light is practically indistinguishable. A feature of the lamp is that all controls can be actuated from a small control box which can be held in the hand.

Control Switches

On the control box are three switches. The first switches on the lamp—the high-voltage striking pulse necessary when the lamp is hot is automatically applied (it is generated actually in the lamp housing, so that there are no high-voltage leads to the arc); the switch can be set to simmer the lamp at 1 kW. The second switch cuts the current from 100 per cent. to 60 per cent.; the third switch can be moved in either direction to cause the lamp to move to spot or flood.

In addition, there is on the control box a handle which actuates the Venetian-blind shutters; thus from the one control box every adjustment of the lamp can be effected. Furthermore, a number of these controls can be ranged together, so that one set of controls may actuate a whole bank of lamps, striking them, dimming them, changing from spot to flood, or "killing" them.

"Dumbo" accommodates either a 2½- or 5-kW. compact-source lamp, and with the latter has double the light output of a DuArc. It has a very wide and even coverage, thanks to the rifled spherical mirror. Its control is similar to that of "The Spectre."

The design of "The Brute," with its mechanism tipping back for access, its lamp flashing to indicate the approaching end of a carbon, its periscope and other refinements, has proved so popular that a demand has arisen for the conversion of ordinary MR170 lamps. Lewis S. Johnson showed me a "conversion kit" which he had worked out, whereby the back casting of the lamphouse and all other components necessary for the conversion can be supplied, at a cost of about one-eighth of that of the complete lamp. The studio is thereby enabled to convert its own MR170s to "Brutes."

Lighting Brilliance

A problem which often is not successfully solved is that of simulating lightning or gun-flashes. The problem, of course, is simply that a momentary flash of light is needed, having a brightness considerably in excess of the normal lighting, yet this flash must not be so short as in the case of the speed-lamp, but must cover several frames.

Some time ago Mr. Heys Hallett demonstrated to the BKS. a flash equipment, which for a period of a few seconds overran a discharge lamp, to produce an illumination of high intensity, suitable for exposing a few hundred feet of film in a high-speed camera. A modification of this principle provides a gadget which will fascinate every cameraman.

The light sources are two compact-source spots, normally running in series at about 1 kW. Associated with the equipment is a little control box containing two rows each of eight switches, and two main switches. Each of the 16 switches represents two frames of film; if a switch is on, the light is flashed at ten times normal brightness for the corresponding period—if the switch is off, the light is burning at its normal intensity.

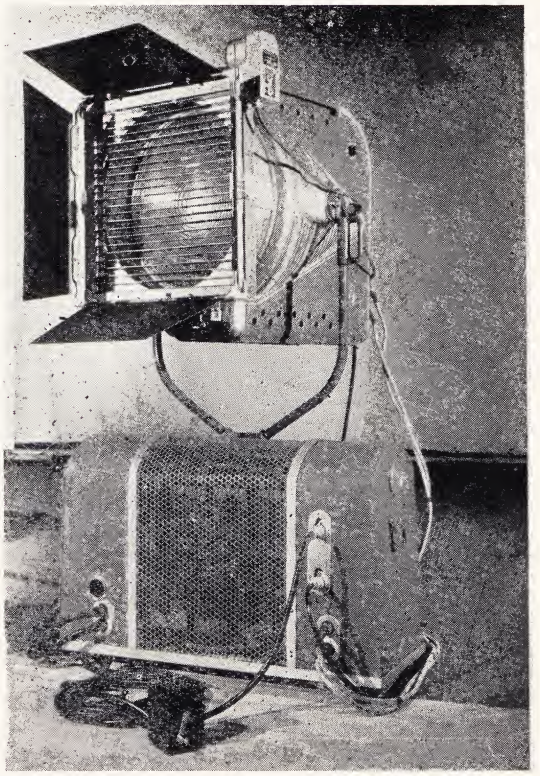
Flash Indicator

Thus, one can, for instance, have the first two switches on, the next three off, the next two on, five off, and four on. On pressing the main switch four frames of film will show a flash; there will be six frames normally exposed, then four flashed, ten normal, and eight more flashed. The combination can be set up in any manner desired, and will, of course, be repeated unvaryingly. The odd switch serves to set the controls.

All the equipment I saw bears the Mole-Richardson distinguishing mark, in being designed not merely in the laboratory, but from an intimate knowledge of the needs of the studio worker.

MUSIC FOR "DARK SECRET"

George Melachrino has completed a four-day musical session for the Butcher-Nettlefold production "Dark Secret." Conducting a full symphony orchestra, he has added what he describes as an "air of mystery" to this suspense picture. The musical sessions were conducted at Riverside Studios.



Mole-Richardson's "Spectre" compact-source spot with resistance unit and remote control box

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CURRENT PRODUCTION CHART

STUDIO AND SUBJECT.	STARS.	DIRECTOR.	PRODUCER AND RENTER.	PROGRESS.
BEACONSFIELD—Beaconsfield 555				
Sponsored Subjects	——	——	Crown Film Unit : COI	——
BRIGHTON—Brighton 4477				
No production	——	——	——	——
BUSHEY—Bushey Heath 1621-3				
No production	——	——	——	——
CARLTON HILL—Maida Vale 1141				
Recorded Television Programmes	——	——	——	——
COOKHAM DEAN—Marlowe 873				
" Meet Simon Cherry " ("The Rev.") (Formerly entitled " Meet the Rev.")	Zena Marshall ; John Dailey	Godfrey Grayson	Anthony Hinds : Exclusive	5 weeks
DENHAM—Denham 2345				
" Give Us This Day "	Sam Wanamaker ; Lea Padovani	Edward Dmytryk	Plantaganet Films : GFD	10 weeks
" The Rocking Horse Winner "	John Howard Davies; Valerie Hobson	Anthony Pelissier	Two Cities : GFD	8 weeks
" The Romantic Age '	Mai Zetterling ; Hugh Williams	Edmond Greville	Pinnacle Prods. : GFD	3 weeks
EALING—Ealing 6761-72				
" The Blue Lamp "	Jimmy Hanley ; Jack Warner	Basil Deardon	Michael Balcon : GFD	3 weeks
ELSTREE (ABPC)—Elstree 1600				
" The Dancing Years "	Dennis Price ; Gise Preville	Harold French	ABPC : AB-Pathe	3 weeks
" Stage Fright "	Jane Wyman ; Richard Todd	Alfred Hitchcock	ABPC Warner	3 weeks
GATE—Elstree 2080				
No production	——	——	——	——
HIGHBURY—Clissold 1230				
No production	——	——	——	——
ISLEWORTH—Hounslow 2323				
" The Cure for Love "	Robert Donat ; Renee Asherson	Robert Donat	London Films : British Lion	9 weeks
ISLINGTON—Clerkenwell 1271				
No production	——	——	——	——
MANCHESTER—Rusholme 4025				
No production	——	——	——	——
MARYLEBONE—Paddington 2444-5				
No production	——	——	——	——
MERTON PARK—Liberty 4291				
Documentaries	——	——	——	——
M-G-M—BRITISH—Elstree 2000				
No production	——	——	——	——
NATIONAL—Elstree 1644				
No production	——	——	——	——
NETTLEFOLD—Walton-on-Thames 2414-7				
" Miss Pilgrim's Progress "	Michael Rennie ; Yolande Donlan	Val Guest	Angel Productions:Grand National	7 weeks
PINEWOOD—Iver 700				
" Madeleine "	Ann Todd ; Ivan Desny	David Lean	Cineguild : GFD	11 weeks
" Spider and the Fly "	Eric Portman ; Guy Rolfe	Robert Hamer	Mayflower : GFD	6 weeks
" The Astonished Heart "	Noel Coward ; Celia Johnson	Terence Fisher : Antony Darnborough	J. Arthur Rank Prods.: GFD	5 weeks
" Golden Salamander "	Trevor Howard ; Anouk	Ronald Neame	Ron. Neame Prod.: GFD	3 weeks
RIVERSIDE—Riverside 3012				
" Maria Chapdelaine "	Kieron Moore ; Michele Morgan	Marc Allegret	Everest Pictures ; British Lion	6 weeks
SHEPHERD'S BUSH—Shepherd's Bush 1210				
No production	——	——	——	——
SHEPPERTON—Chertsey 2211				
No production	——	——	——	——
SOUTHALL—Southall 3281				
" Skimpy in the Navy "	Hal Monty ; Max Bygraves	Stafford Dickens	Advance : Adelphi	3 weeks
TEDDINGTON—Kingston 2181-89				
" Three Men and a Girl "	Paula Valenska ; Richard Murdoch	Gordon Parry	Anatole de Grunwald Prods : Renown	6 weeks
TWICKENHAM—Popesgrove 4451				
No production	——	——	——	——
VIKING—Western 2516				
No production	——	——	——	——
WELWYN—Welwyn Garden 3241-7				
No production	——	——	——	——
WINDSOR—Chancery 8760 or 5211-2				
No production	——	——	——	——

Awaiting Trade Show

" Adventures of Jane, The " (Keystone : Eros), " Adventures of P.C. 49 " (Exclusive), " Angel with the Trumpet, The " (London Films : British Lion), " Bait, The " (Adelphi), " Boys in Brown " (Gainsborough : GFD), " Celia " (Exclusive), " Chiltern Hundreds " (Two Cities : GFD), " Conspirator " (M-G-M), " Cord, The " (Valiant Films : British Lion), " Dark Secret " (Nettlefold : Butcher's), " Dear Mr. Prohack " (Wessex : GFD), " Diamond City " (Gainsborough : GFD), " Dick Barton at Bay " (Hammer-Exclusive), " Don't Ever Leave Me " (Gainsborough : GFD)," Dr. Leroy's Secret " (Ambassador), " Elusive Pimpernel, The " (Archers : British Lion), " Gorbals Story, The " (New World Pictures : Eros), " Hasty Heart, The " (ABPC : Warner), " Helter Skelter " (Gainsborough : GFD), " High Jinx in Mayfair " (Advent : Adelphi), " Landfall " (ABPC : AB-Pathe), " Lost People, The " (Gainsborough), : GFD), " Madness of the Heart " (Richard Wainwright : GFD), " Melody Club " (Tempean : Eros), " Mr. Jolly's Journey " (John Baxter), " No Place for Jennifer " (ABPC : AB-Pathe), " No Way Back " (Concanen : Eros), " Obsession " (Independent Sovereign : GFD), " Old Mother Riley's New Look " (Renown), " One Good Turn " (Ambassador), " Paper Gallows " (Advent : Adelphi), " Pilgrim's Way, The " (Baze : Exclusive), " Probation " (Data), " Run for Your Money, A " (Michael Balcon : GFD), " Third Man, The " (London Films : British Lion), " Train of Events " (Michael Balcon : GFD), " Traveller's Joy " (Gainsborough : GFD), " Trottie True " (Two Cities : GFD), " Under Capricorn " (Transatlantic : Warner), " Vengeance is Mine " (Cullimore-Arbeid : Eros), " What a Carry On," retitled from " Somewhere on Parade " (John Blakeley : Mancunian).

A NAME THAT IS HISTORY IN THE FILM WORLD

The Story of the Growth of Associated British-Pathe, a Powerful Organisation operating in every branch of the Industry

FORTY years ago two young Frenchmen decided that their enthusiasm for film making could not be completely satisfied in their own country—so they came to England and selected London's Wardour Street as the best place to start a branch of their French film business.

They were the Pathé brothers; they built the foundation for much of the British film industry. More than a generation has passed since they operated in that first film building in Wardour Street, but the same tradition of audacity and enterprise persists today in Associated British-Pathé, the rapidly growing, modern offspring of those brothers' dreams.

From two intensely keen technicians the number of Pathé staff has grown to between 700 and 800, distributed around four principal centres in London, and nine branches throughout the country.

About 150 people man the company's production department, whose annual output of 300 films is claimed to be the largest individual production rate in the world.

The origin of the company can be traced back further than the date of Charles Pathé's arrival in Britain. The film was in his blood from the start, and his interest in production first marked him out as a pioneer in the art during 1897, 12 years before the establishment of his organisation in this country. During the recent 50th-anniversary celebrations of the company in France, great emphasis was put on the patriotic aspect of Pathé's work, yet it is fair to point out that Pathé's British association and interests did more to establish the cockerel trade-mark in the world film market than anything else. That comparison may be ironical, but it's true.

Replaced by a Kinema

For a short time before the Pathé brothers moved into their first Wardour Street premises they used a building in the Charing Cross Road, which—appropriately enough—has been replaced now by a Cameo news theatre.

Number 103, Wardour Street soon became synonymous with news, because of Charles Pathé's determination to establish the newsreel as an integral part of the programme in every kinema in the country.

Some time before this, Pathé introduced the idea of regular kinema news to audiences in France, where his reel was screened under the title of Pathé Journal; in this country it was shown as Pathé Gazette. The British label was unchanged from the time the Pathé films made their début as the first newsreel in this country until the second world war.

It was normal in the early days of the company for cameramen to travel to Liverpool on the Grand National racing assignment, process the film themselves, and afterwards see it the same night in the West End. This custom continued on every major news event for many years.

No one in Pathé House today can recall those days. One of the mainsprings of the company's present policy has been to attract into its service, and the production department in particular, young people keen to settle down to a future in the industry. "Under-forty" describes the bulk of the production personnel.

Two notable exceptions are veteran cameramen Ken Gordon and Jock Gemmell, who each have a 30-year record of service to Pathé News

William Moffat, managing director of Associated British-Pathe

Years of difficulty, intensified by the many problems presented by the first world war, followed the formation of the company. Credit for the wide development of Pathé in this period is due to the work of Hedley Frank Smith. It was during his régime that the "Felix the Cat" cartoon films were launched. In those days they enjoyed a popularity which has not even been exceeded by Disney's "Mickey Mouse" cartoons. In those days also, Pathé was responsible for the presentation of many of the most spectacular films ever released. Many were in Pathécolor, a hand-tinting process.

Beaverbrook's Interest

When Hedley Smith retired and went to live in France the reins were taken over by his son, Frank Smith, and eventually a predominant interest was secured by Lord Beaverbrook and the late W. Evans.

By this time, John Maxwell, who had been building up a circuit of kinemas, was canvassing the possibilities of production. The initial moves in this direction were taken late in 1927, when he acquired the franchise of Associated First National, an American company, and a majority interest in Pathé Frères, and combined them under the title of First National-Pathé, with D. E. Griffiths as sales manager.

After three years the company was dissolved into its component parts, the First National interests were acquired by Warner Bros.—a significant portent, and Pathé was retained by Maxwell as a separate distributing organisation, *vis-à-vis* Wardour Films, of which Arthur Dent was general manager.

In 1933, W. J. Gell was appointed managing director, a post which he held until 1943, when subsequent upon changes resulting from the acquisition by Warner Bros. of a considerable shareholding in Associated British Picture Corporation which now controlled the company, he was succeeded by William Moffat, the present managing director of Associated British-Pathé.

Throughout these changes newsreel production continued without a break, although the company's distributing interests grew rapidly. The wisdom of this policy is reflected in the status of the Pathé News today. Competing with Gaumont-British for the distinction of winning most showings in this country, the Pathé reel is screened twice every week in 1,000 kinemas.

Some time between 1926 and 1927 the company became the property of British International Pictures, which soon went into the production field at its Elstree studios.

When Wardour Films folded up, Pathé was preserved to serve as the Associated British distribution department. The organisation has since been responsible for world-wide distribution of all ABPC product, and early this year it earned its latest and most comprehensive title: Associated British-Pathé.

First in the Field

Since the days of "Felix the Cat," publicity and propaganda have been features of Pathé operations. An early instance of its initiative in this direction was the fitting out of long-distance express trains with sub-standard kinemas shortly before the second world war. The importance of exploitation has never been underrated by its executives, whose policy has been consistently to afford every assistance to its exhibitor customers.

With the exception of the Rank Organisation, Pathé is the only film concern to have operated in every branch of the trade in this country, and one of the factors at work behind the general reorganisation and growth of the company in recent years has been a determination "to pin our flag to the mast"—in the words of chief producer Howard Thomas—and proclaim its independent character and status.

William Moffat, managing director of the company, can take a large share of the credit for the impressive development of AB-Pathé in the past six years. With John Maxwell he built up ABC kinemas to become the largest individual circuit in the country, and is acknowledged to be the best living judge of a picture's box-office value. Business associates credit him with the ability to assess the earnings of a film screened in winter in Newcastle or with equal accuracy the potentiality in terms of revenue of a new West End arrival at the pitch of the summer season. Both visionary and realist, his strange power of prediction has brought prosperity and expansion to AB-Pathé.

The organisation is now spread over four London centres. Production and publicity staffs are housed in the new Pathé House in

(*Continued on page v*)

Gi

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A NAME THAT IS HISTORY—Continued

Oxford Street; the former Anglo-American building in Wardour Street is to be converted to take the London branch office of the overseas sales department; studio and laboratories are retained at the original Pathé headquarters at 103, Wardour Street, and Film House will continue to function as a centre for the accounts department and general administration.

A survey of the present-day production activities of the group reveals a changing and improving style in the weekly news magazine, Pathé Pictorial. Its appeal is consistently seasonal, not topical, and the more balanced and complete news service that is made possible by less frequent appearance has won sound popularity for the reel in the 800 kinemas where it is screened each week.

Politics Prohibited

"News Parade," a newsreel designed specifically for the benefit of the British Army, gets wide distribution in Germany at present. Principal items are sport and glamour with politics prohibited.

Educational, film-strip, industrial and animation units are working to full capacity, but it is in the documentary sphere where most ambitious changes are expected. The limited scope for ingenuity and experiment in newsreel production—and the rigid revenue limit fixed for newsreel exhibition—encouraged the company to try out new ideas with documentary. This resulted in the semi-documentary feature, "The Peaceful Years," and the latest plans include the production of a pictorial scrapbook for 1933. Work on this picture will go on for a year.

Production began last week on a new film of the documentary type which will trace the pattern of English social history during the first half of the twentieth century. Its release will coincide with the completion of building and other arrangements for the 1951 Festival of Britain, and it will act as a complement to the Crown Film Unit's official record of the planning and construction of the festival.

Howard Thomas, Associated British-Pathé producer-in-chief, who is on the Festival of Britain Films Selection Committee, said the picture marked an important departure from the conventional documentary technique. "We are making documentary features for the theatre, aiming at a combination of what the exhibitors want in terms of entertainment, and what the documentary experts believe the public should have." He went on to claim the successful formula for this kind of production was a blend of informative value with entertaining, human interest.

He forecast that Associated British-Pathé would soon produce second features of a documentary type, with a definite educational value. He agreed that no time or expense would be spared to keep the technical quality of the second feature and documentary subjects as high as possible, and intimated that the company's entry into the first feature market was not far distant. The association with ABPC and that group's studio facilities would make first-feature production a simple move. He pointed out there was no other renting concern in the industry with its own laboratories.

The educational film service for the benefit of schools and colleges is to be extended to include the revival of the memorable "Secrets of Nature" series. School teachers on the production staff are planning a modern version of this old favourite. Basic design of the series will remain unchanged, but the commentary will take a fresh and more scholastic approach.

This development is a timely one, in view of the progressive attitude of county education authorities towards visual aids in schools.

Several counties have acted already to improve 16-mm. projector installations. Most recent was Kent with an annual appropriation of over £100,000 for school film equipment of every type.

New Animation Camera

Pathe has brought into use a new model of an animation camera, and film strip production covers an almost limitless range of subjects from the life story of a moth to the castles of Britain.

Making of cartoon films is the only aspect of production not handled at present by the company.

The Pathé plant includes factory premises at Mitcham, where film strip and animation work is done, and machine shops in Berwick Street, W.1.

The most striking feature of the Associated British-Pathé news service is an international co-operative scheme whereby Warner-Pathé News in the United States covers the British reel's interests there, and Pathé News here reciprocates the service. A similar exchange plan is worked with Pathé news in France, and there is an interesting agreement in force which assures there is no material in any of the three reels detrimental to the character of the nations involved.

In this way Pathé caters for a vast cross-section of the world kinema public—and without any extra costs. The news exchange system is operated without the transaction of a single penny, franc or dollar.

Determined to harness the advantages of television to film production needs, Associated British-Pathé has been engaged for several months in the preparation of plans to incorporate television in the newsreel.

There were many offers from television firms in the United States for the screen rights there of the weekly news magazine, "Pathé Pictorial," and it is expected that as a result of a recent deal with a leading American network the Pathé film will get a coast-to-coast transmission.

Prelude to Telekinemas

Pathé share with the Rank Organisation a vital concern in the development of television. Howard Thomas said that the production of news magazines and other interest features for the American television market was a useful and instructive prelude to meeting the demands of television in our own kinemas. "We have a clear plan about the use of television," he said. "Our top technicians are studying the technical problems of shooting with television cameras. We regard it in the same way as the coming of sound—a natural development of kinema.

"The public mind and appetite for entertainment will change, and so will the newsreel. The shape and style of the conventional reel today will become more of a leading article or commentary in future, rather than a straight news report. To be objective," he added, "would still be the newsreel's first duty."

He thought that the chief value of producing for the American television market today was the films' dollar-earning capacity.

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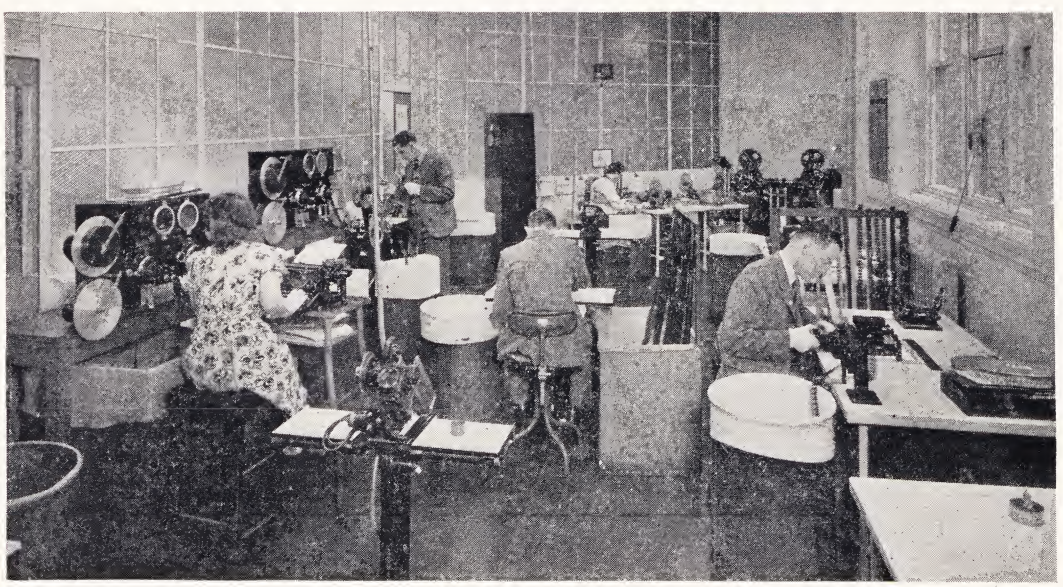
Yesterday, people depended on the pen to put across their ideas and information; today the kinema screen is the most effective and universal method of expression and enlightenment.

The recent occupation by Associated British-Pathé of the home of the Swan pen is a significant comment on the meaning of progress.



A typical example of the modern efficiency of Pathe House is the newsreel cutting room. Equipment comprises Acmiola and Editola editing machines, Acmade and Elmec synchronisers and splicers

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THE KEY MEN OF THE ORGANISATION

Biographical Sketches

MOST of the chief executives in the company's production department have a strong background of practical experience in the film industry, radio and journalism.

Here are biographical sketches of some Associated British-Pathé producers, editors, engineers and cameramen.

HOWARD THOMAS, producer-in-chief, was trained in advertising and journalism in Manchester. A copy writer with F. C. Pritchard Wood and Partners. Followed this by formation of commercial radio department for London Press Exchange. Writer and producer for BBC. Originator of "The Brains Trust" and "Shipmates Ashore" programmes, and pioneer of developments in Transatlantic broadcasting.

Now controls production of news, magazine, documentary, industrial, educational and feature films. Chairman of the Associated British group's publicity committee.

Chairman of the group's Television Working Committee. Council member of the Association of Specialised Film Producers, and chairman of the Newsreel Association.

TERRY ASHWOOD, producer, entertainments shorts department. In charge of his own Press agency in Fleet Street in pre-war days. Joined Pathé in 1940, and covered all major military campaigns in the Middle East and wartime Government conferences. Returned to Britain as chief cameraman in 1944, later became features editor and producer of Pathé Pictorial.

GEORGE CUMMINS, editor, Pathé News. Spent half his life in newsreel work, starting with Fox News in 1920, and afterwards with Paramount News in New York in 1928. He returned to London in 1931 to initiate the British Paramount News and edited it until October, 1948, when he joined Pathé News.

W. S. BLAND, chief sound engineer. Trained as an electrical engineer and joined the Columbia Gramophone Co. in 1929. In 1935 joined London Films' sound department and did location work on "Elephant Boy." In 1938 went to the technical staff of International Broadcasting Corporation and from 1939 to 1944 was in charge of sound recording for Spectator Short Films. Joined Pathé in March, 1944.

PETER BAYLIS, producer, documentary unit. Was at the old Rock Studios, Elstree, then with the Shell Film Unit before joining the RAF as a pilot. Later he was attached to the RAF Film Unit, and wrote, produced and directed many wartime films. In 1946 he joined Pathé and has been hailed since as one of Britain's leading documentary film-makers.

GEORGE STEVENS, chief cameraman. First worked for Pathé in 1926 on two silent films. In 1928 was at the old BIP Welwyn Studios as an assistant, then crossed over to Gaumont's for 13 years. Joined the Pathé News in 1945 and has been chief cameraman for the past two and a half years.

A. H. T. GLOVER, associate producer, educational unit. A prominent educationalist who has been with British Instructional Films since February, 1948. Started his career as a teacher and has written many books, including "New Teaching For a New Age," "Man and Metals," "The Thirst of Cities," "Making Light." Was with the Nelson publishing company as an educational editor and lecturer.

KENNETH GORDON, cameraman, worked for Films, Ltd., of Liverpool. Apprenticed later to Bolak's Press Agency; Fleet Street. While with the Gaumont News he filmed King Edward's funeral, King George V's Coronation, and the Prince of Wales' investiture at Carnarvon Castle.

Filmed and experimented with earliest colour processes, Kinemacolor and Biocolour. War correspondent in the Balkan War and returned as chief cameraman for the Magnet Film Co. and Britonia Film Co.

After the war he served with the British North Russian Force as cameraman for the Ministry of Information. Joined the original Pathé Gazette (now Pathé News) at the time of the Irish "troubles," and has since served with Pathé all over the world.

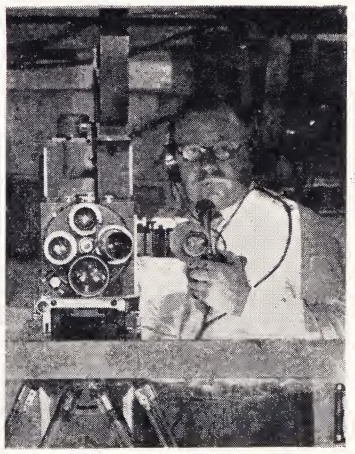
J. C. ("JOCK") GEMMELL. Another of Pathé News' "ace" cameramen, who started in the film business way back in 1910, in the laboratories of Barker's Motion Photography and the Warwick Trading Co. Joined the Pathé Gazette in April, 1912, and opened and managed their Liverpool laboratory and photographic office. Served with the Royal Flying Corps during the first world war and on discharge joined Topical Budget, returning to Pathé Gazette in 1920.

Howard Thomas

George Cummins

Terry Ashwood

Peter Baylis



"Ace" cameraman Ken Gordon in the days of sound booths before blinks were used

J. C. 'Jock' Gemmel who during the war covered the blitz and naval actions

A. H. T. Glover

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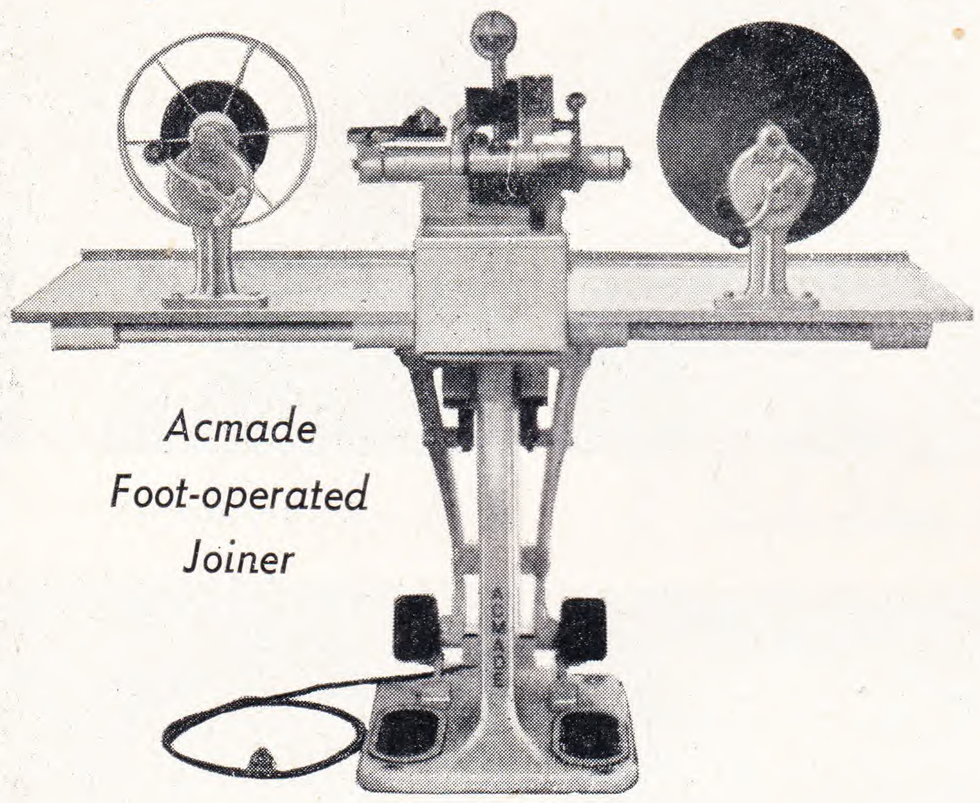

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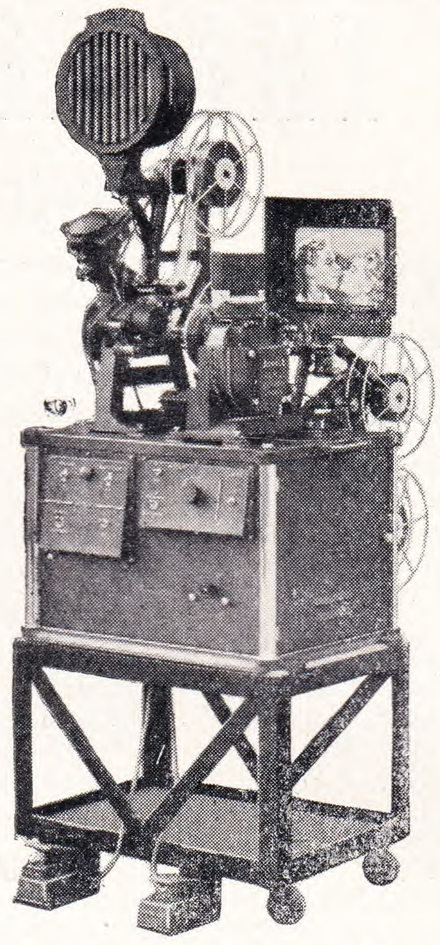

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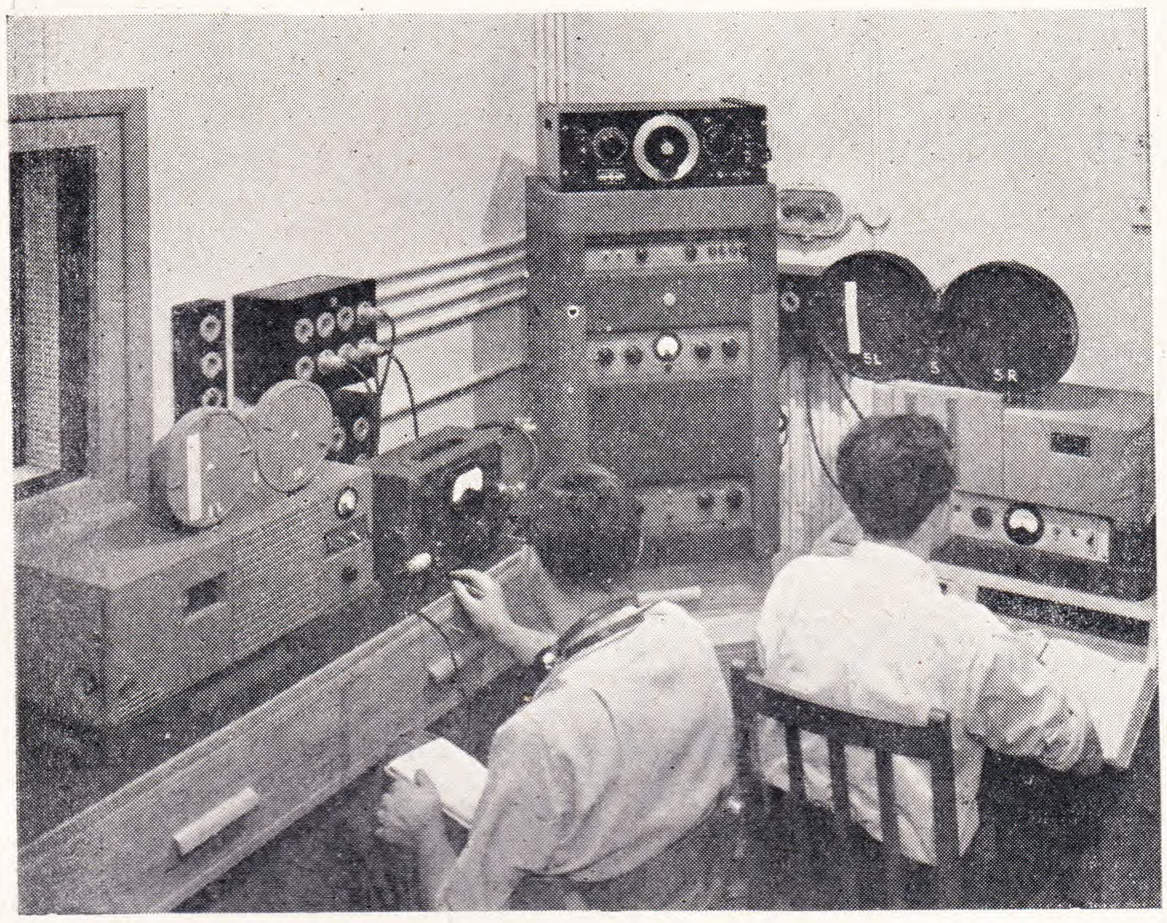
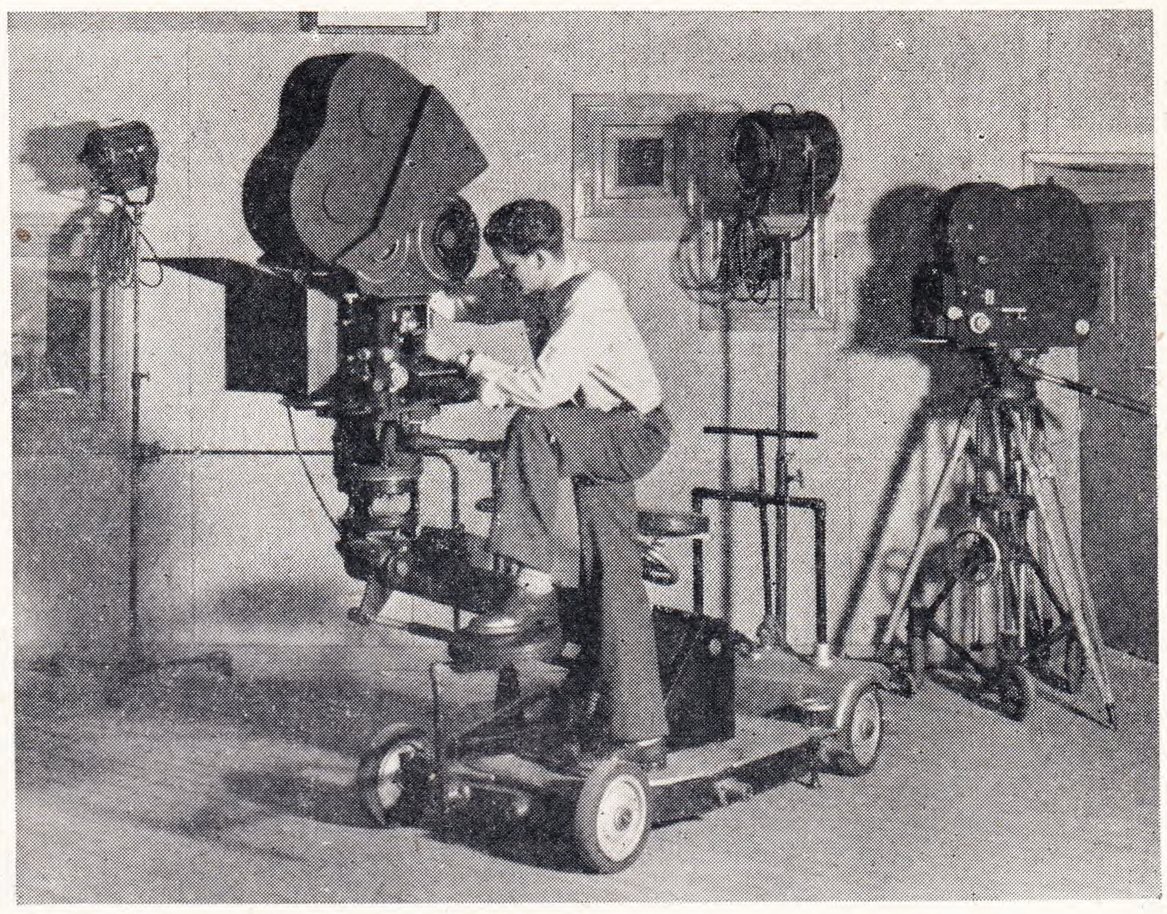




Left : In the channel room at the Pathe Studio, mixer Jack Miller and recorder operator Eddie Steadman do the daily routine tests in the RCA PM 45 recording channels. The new PR 32 16-mm. recorder which may be substituted for 35-mm. machine, is seen on the left. Outlet boxes terminate the lines to the stage projector soundhead and recording theatre in the floor below. On the right : In the Pathe studio, camera assistant Martin Rolfe loads the Newall camera. The second Newall stands behind on a rolling tripod

A WEST-END PRODUCTION CENTRE

Fitted with technical equipment of up-to-the-minute design and manned by experts in every sphere of film making, Associated British-Pathe have, in their new home, built up a comprehensive and self-contained service that is second to none.

THE climax to a five-year programme of post-war development, costing £160,000, comes this week with news of the transfer of Associated British-Pathé, Ltd., production headquarters to a site at the corner of Oxford Street, W.1, and Wardour Street.

According to the managing director, William Moffat, the new building will not only function as an impressive showcase for the company's activities in the West End, but will accommodate the most comprehensive production service in Europe.

Coincident with this move is the renovation and development of the Associated British-Pathé laboratories at Elstree and the new studio in Wardour Street. £100,000 is to be spent in the transformation of the original Pathé laboratories into a modern processing plant capable of getting the highest-quality result with every variety of stock.

Extensive Rebuilding

The new production headquarters of the company in Oxford Street was the home of the Swan fountain pen for many years. Extensive rebuilding was carried out before the block won its latest label : Pathé House. Production activities at Pathé House will range from educational strips to full-length features.

There will not be any change in the position of the Associated British-Pathé head-office at Film House, Wardour Street.

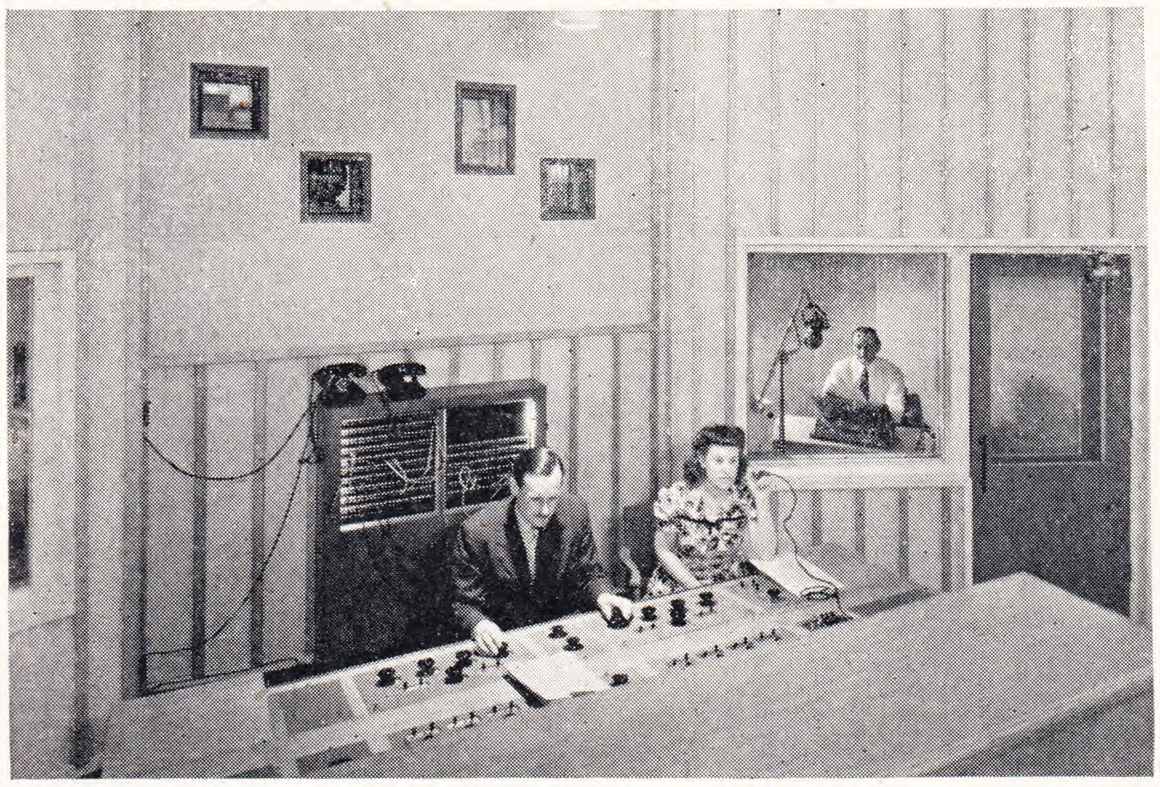
The publicity value of the company's purchase cannot be overestimated. The block extends from Wardour Street to Berwick Street, with frontages on Oxford Street and Wardour Street.

The opportunity for display will be exploited and every phase of the company's work will be illustrated by publicity window dressings. The Oxford Street main entrance will take the form of a special design reception foyer, flanked by display on educational and sub-standard film.

The emphasis on news is retained. An electric news strip is to be built across the front of the building, to flash out to Oxford Street crowds latest messages from home and overseas via the Pathé news rooms.

The complete ground floor of Pathé House will be devoted to the production of the newsreels. The news department will be equipped with extensive film-cutting and editing rooms, claimed to be the largest in London.

The newsreel section will have its own viewing theatre on this floor, and the crews and their equipment will be housed adjacent to the Berwick Street entrance so that urgent story flashes can be followed up at once by a rapid get-away.



Recording of Pathe News in the company's new recording theatre. Jack Miller is at the controls of the 8-position mixer, while Kathleen Ashby cues the commentator, Bob Danvers-Walker

Recording Theatre

The company's chief sound engineer, W. S. Bland, has designed a new recording theatre for Pathé House in consultation with RCA. When complete, it will be one of the few plants of its kind in the country which can handle the recording of 35-mm. and 16-mm. tracks simultaneously. Technical equipment for this theatre, built in the basement of the block, will include rare and useful items of the echo chamber variety.

Production and administrative staffs have moved into offices on the upper storeys of the building, and the transfer was organised on a three months' staggering scheme to cut down interference to the Associated British-Pathé 1949-50 production schedule. Docu-

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A WEST-END PRODUCTION CENTRE—continued

mentary, industrial, educational, animation, and filmstrip units will be located in the Production Division's new home.

Perhaps the most valuable aspect of Pathé services has been the film library and its precious link with events in world history since the start of the century. The Pathé Picture Library will be moved to the top of the new headquarters, and, at the same time, extra precautions will be made against damage to the libraries at Mitcham and Elstree.

These vaults contain millions of feet of film, some of it from early news pictures dating back to the days of the bioscope.

The AB-Pathé expansion means more than prosperity in the domestic affairs of the company; independent producers are invited to take advantage of the new facilities on a rental basis, and increasing co-operation in this field with outside production companies is likely.

Self-Contained Service

"We believe, that here, in the heart of filmland, AB-Pathé have built up a comprehensive and self-contained production service that . . . is without equal in Europe," reflects the confidence of managing director William Moffat in this ambitious venture.

Years of research into problems connected with mobile and location work led Howard Thomas, producer-in-chief, to state recently that AB-Pathé could now send out units to shoot anything, anywhere.

These are the details of technical equipment at the new Pathé House:—

Outstanding component of the new recording theatre is an eight-channel re-recording console. Each channel has its own variable compensation. A variety of effects filters are provided, and together with echo on two channels and the single-line compressor, these are directly under the mixer's control. Five tracks can be handled, but when needed, a head from another theatre can be interlocked with the system. Other items include disc turntables, microphones and a neon volume indicator. An RCA 230R theatre reproducer has been fitted. Projection box is flanked by commentator's booth and a 35-mm. room housing the PM49 recorded channel.

Recording Gear

The recording apparatus has a magnetic film drive, and can be converted to record either a negative or direct positive track. The positive track is preferable for certain colour work and is invaluable for rapid production of single copies.

The sub-standard recorder can be used simultaneously with the 35-mm. channel or alone, or it can be used for the transfer from 35-mm. while the theatre is working for a normal session.

The sub-standard recorder is the latest PR32 model, recording negative for contact printing or positive for colour or direct black and white.

Future installations at the theatre will include a synchronous disc recorder and playback, and a magnetic recorder.

Ross GC machines with RCA soundheads which will play either standard or push-pull tracks figure in the projection box and illumination is by "Streemlite" arcs fed by a Nevelyn three-phase rectifier.

A frequency stabiliser is also fitted. This removes any pitch change difficulties due to variation in mains frequency. It can also be used to correct tracks recorded off pitch.

High-speed sound demands of Pathé News and Pathé Pictorial and the company's impressive experience in documentary production has resulted in the design and introduction of a self-contained mobile RCA recording outfit competent to handle every type of recording assignment under any conditions. With other mobile units, this truck will be based on the new Pathé headquarters.

On a 3-ton chassis the truck has a heavily insulated coachwork body and reinforced roof to carry camera and crew. Film loading can be carried out on the road while the truck is blacked out. Amplifier, recorder and power distribution controls are brought together at the operator's fingertips. Power is supplied from the vehicle's 60-volt battery with sufficient capacity for two days' shooting on one charge. The unit can be converted to mains operation, and a good set of cables allow the camera to work up to distances of about 500 ft. from the truck.

Four-Channel Mixer

The recording system used is the latest development of the RCA PM45 channel with ultra-violet light exposure, compression, and biased galvanometer noise reduction. There is a two-channel high-level remote mixer, and a four-channel mixer is available for multi-microphone music recording. Loudspeaker and headphone monitors are installed and direct talk-back between mixer and recorder operator supplements the intercom. telephone system. Striking proof of the versatility of this unit was provided by the interest feature, "The Peaceful Years." In addition to the many documentary items in the picture, the complete newsreel recording was handled by this unit.

Working in conjunction with this truck is a Newall camera outfit carried with crew and equipment in a modified Utility van.

For special work and shooting from aircraft and trains, the company employ two portable units combining the RCA PM44 channel with the Mitchell sound camera. Mole-Richardson equipment transported in a separate van provides any lighting needed by the camera units.

Production has been resumed at the rebuilt Pathé studio in Wardour Street, which has a floor space of 42 ft. x 44 ft. Evacuation of the production department from the studio premises to Pathé House has made room at the studio for dressing and make-up rooms, workshops, stores and reception facilities.

[Technical details about the studio plant were listed in the KINE. British studio supplement section, June 30.]

Ancillary Services

Producers will be offered the use of a wide selection of ancillary services at Pathé House. The animation unit will handle diagrammatic films in monochrome or colour, animation for optical superimposition on live action, titling, and the shooting of cartoon or diagram animation work drawn elsewhere.

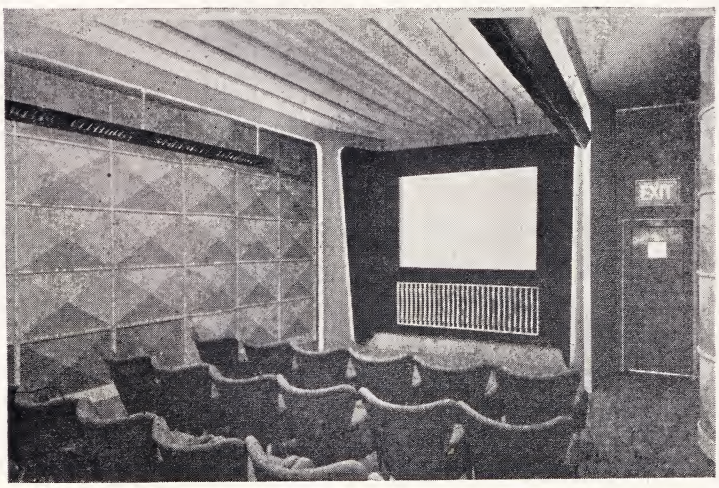
The photographic section of the film strip unit will handle every kind of strip, either in colour or black and white, and art specialists and technicians with educational experience will be engaged.

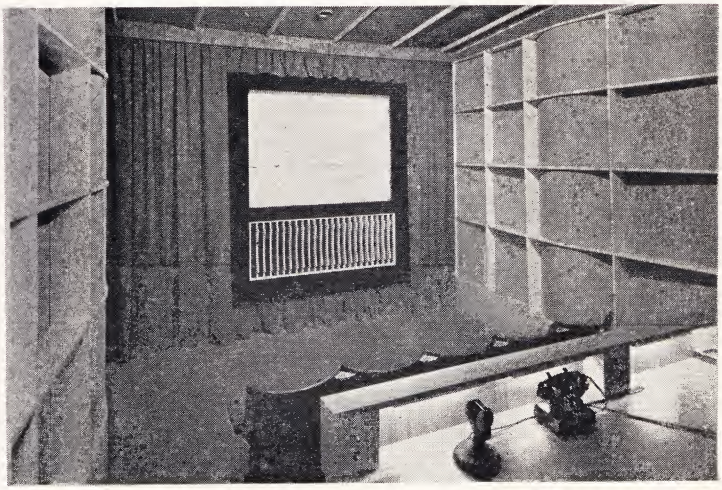
Feature producers will have at their disposal the complete Pathé Library stock, even the 50-year-old news material.

Latest equipment in the range of optical reduction printers at the Elstree laboratories has set a new high standard in 16-mm. processing, and full contact printing is used on the sub-standard stock where the need for perfect negatives justifies the cost.

The company's large maintenance unit services every item of equipment from door hinges to sound trucks, and the department has mechanical tools to produce its own apparatus and special spare parts if needed.

The integrity and co-operation between the AB-Pathé cameramen, sound crews, writers, artists, electricians, stage hands, chemists, carpenters and mechanics must give to the company the strength and confidence so vital in efforts of this kind to stimulate British film production.





Left: Preview Theatre screen end, showing cylindrical splays which form part of the acoustic treatment. Right: The Newsreel Theatre from projection box door showing cylindrical splays used in acoustic treatment. The desk carries shielded lighting, remote volume control, telephones and call system microphone which can be switched to all sections of the news department or to the projection box

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Technical Installations at Pathe House

MORE than 50 firms connected with the film industry were associated with the reconstruction and equipment work at the new Pathé House in Oxford Street, London, W.1.

Listed here are some of those companies and their contribution to the technical installations in this modern production plant.

During 1946, RCA technicians made a thorough survey of British studios' equipment needs and studied future trends in that direction. As a result, it was decided to develop the LG.230P and the LG.230R standard theatre-type amplifier units. By a special grouping of these units an ideal reproducer system can be built for a preview theatre. The LG.230P is installed in over a dozen preview theatres in this country, and two units were fixed in the new Pathé House.

The equipment provides for reproduction from standard and push-pull sound tracks, and married and unmarried prints. The sound-heads are a special version of the LMI 9031 rotary stabiliser theatre sound-head. Special features are close tolerance ball bearings, Vulcaprene multi-section pressure roller, and .00075-in. scanning light beam developed by a special optical unit for constant longitudinal illumination. The sound-head embodies the RCA 920 push-pull photo-cell, and a secondary optical prism unit is provided to balance the output from the two halves of the cell.

The fader system, includes a pilot lamp circuit to indicate which sound-head is reproducing, and provides noiseless changeover of the audio output signal from the two sound-heads. One of the sound-heads can be used as a re-recorder, and coupled to the normal re-recording system in an adjacent dubbing studio.

The equipment fitted consists of two racks containing the amplifier system. A convenient feature is that the various chassis are hinged to open towards the front, so that all the components can be reached easily.

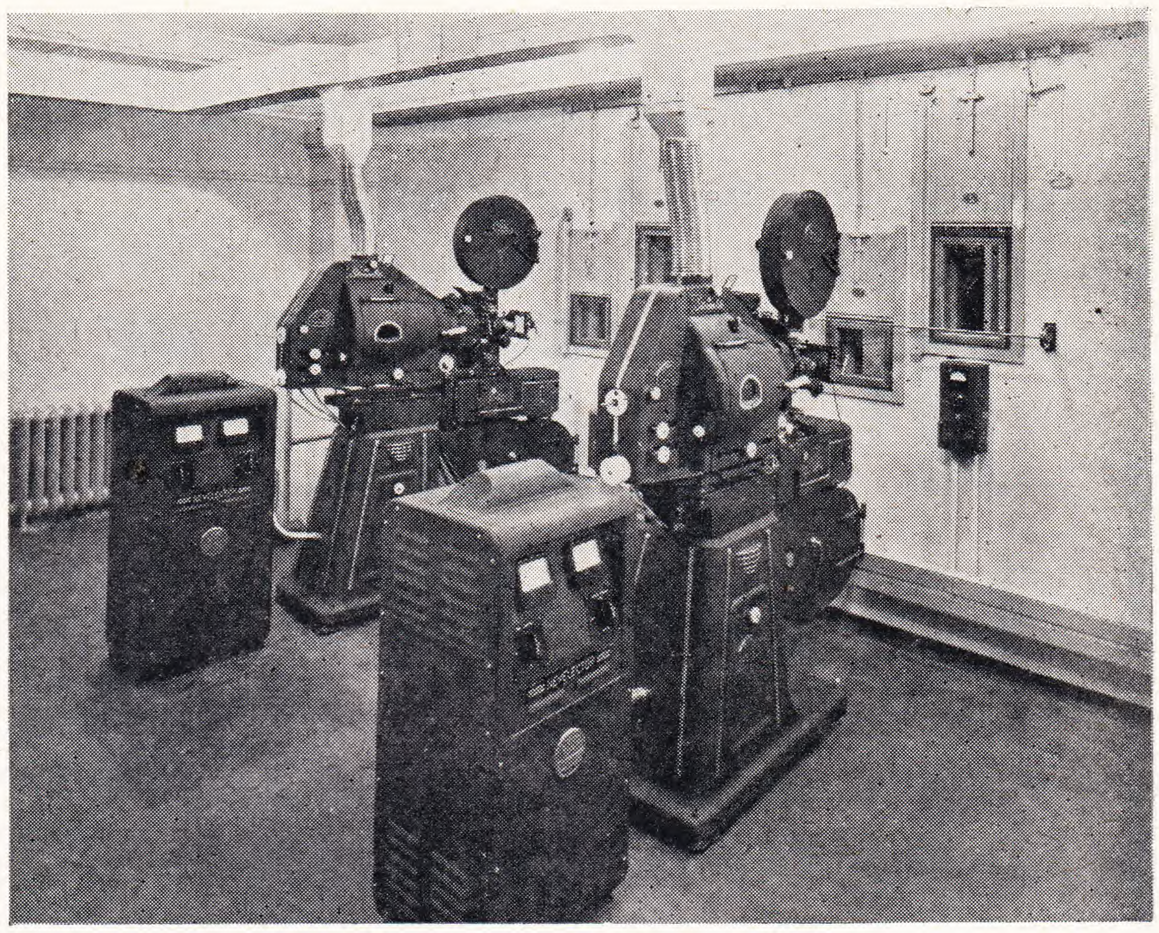
Lengthy research into studio operating procedure led to the adoption of a totally enclosed design for the racks. All controls are grouped adjacent to the sound-heads. The only additional controls are housed in the second rack, which contains PEC supply unit, output control metering panel, and sound-head balancing unit. As the controls on the second rack are either pre-set or only handled at periodic intervals, the enclosed design is no obstruction, and has added advantages as far as cleanliness and appearances are concerned.

The units in Rack 2 facilitate the routine studio tests: Overall frequency film response characteristic and gain; balancing the audio outputs of the sound-heads; cross modulation tests using 400-cycle filter and attenuator unit; adjustments to sound-head optical system and push-pull balancer. An extension test jack is fitted alongside the sound-heads for remote metering.

The output control panel in Rack No. 2 has three positions, i.e., "main speaker system," "test" and "auxiliary speaker system." In the last position reproduction from the equipment can be switched to a remote speaker system located on a stage or elsewhere in the studio for any purpose.

The remote volume control on the LG.230P is located in the auditorium, and the projectionist, after opening up a preview session, can transfer control to the remote position or regain it by means of a transfer switch built into the main volume control. This unit is located immediately below the main observation port and extension position is provided below the other.

Metal Works Services fitted out the building with about 7,000 ft. of steel and glazed partitions for offices, cutting rooms and stores. The firm also erected two iron escape staircases and numerous metal fittings and doors. Installations extended from the basement to the first floor.



Projection room of Theatre C, showing Ross GC projectors, with "Streemlite" arcs, fed by Nevolector rectifiers. The projectors are fitted with RCA preview attachments and LMI 9031-R soundheads, which allow the running of standard or push-pull tracks. The observation ports are brought low to permit 16-mm projectors to be wheeled into place on trolleys. Sound reproduction is by the de-luxe RCA 230P equipment

In the past two years the company has carried out work of this kind for over 200 kinemas, theatres and public buildings. Recent contracts accepted by the company have been for work on the London Coliseum, London Hippodrome, Prince of Wales Theatre, and the London Pavilion. Metal Works Services also maintain numerous centres in the provinces.

James Sinclair and Co., Ltd., supplied Associated British-Pathé with 24 Auto-Kine model G cameras. Most useful features of this standard 35-mm. model are spring drive, 200 ft. interchangeable magazine, film gate focusing, and interchangeable lens. When loaded, the camera weighs 20 lb. and is likely to be particularly suitable for mobile news and documentary work. The company also deal in sub-standard cameras, but manufacture chiefly for the 35-mm. field.

J. Jeffreys and Co., Ltd., installed a complete ventilation system and remodelled the building's heating plant. Temperature of 65 deg. can be maintained inside the block when 30 deg. is the outside temperature at earth. Six changes of air within an hour are provided by mechanical ventilation, and one and a half changes an hour by natural ventilation in the rooms. Air is drawn into the building at the roof by a centrifugal-drive fan, and passed through a series of filters and 500 ft. of galvanised sheet steel ducting—weighing 2 tons—to the offices and compartments.

On each of the three legs of the ducting there is an air heater controlling the temperature in all the rooms. Warmth is provided by hot water at 180 deg. F. from the boiler. The heaters consist of bands of grilled copper tube braised into casing, and most of

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TECHNICAL INSTALLATIONS—Continued

the inlets into the rooms are through levered grilles.

The filters are fitted with diffusive masks, and the filter in the theatre has a decorative plaster plaque. The ducting in the theatres, recording rooms and commentators' booths is lined with magnesia asbestos for sound-proofing purposes. Three fans control the air extraction system, and the company's engineers estimated that every hour 10 tons of air pass in and out of the building.

Jeffreys—who handle every kind of heating and ventilation task from cottage equipment to district heating schemes—also modified the radiation system at Pathé House to fall in line with the requirements of the new ventilation plant.

Kay's Laboratories, Ltd., handle the processing of the Associated British-Pathé interest and feature film material, and for many years Poliwax Film Treatment, has been responsible for waxing the AB-Pathé sub-standard films and pictures made for the Services in particular.

Cutting Room Outfit

Acmade, Ltd., supplied equipment for most of the cutting rooms in the new Pathé House, including Acmiolas with projected image, with extra soundheads for married prints, and standard Acmiola model B units fitted with reversible take-ups.

This company also installed a number of foot-operated splicing machines for negative and positive work, and other items included synchronisers of various kinds, rewinders, film bins, wire spools and film horses.

The lesser-known products of E. K. Cole, Ltd., Southend-on-Sea—manufacturers of Ekco radio and television sets—have a place in the new Pathé House. The organisation has equipped the building with special fluorescent lighting fittings, and the Ekco plastic division contributed a number of toilet mouldings.

Brent Laboratories, Ltd., process sub-standard feature and educational film material for AB-Pathé, and 35-mm. material for Pathéscope. The company's services include production, sound-recording, negative developing and printing, both in the standard and 16-mm. field. In the last four years, Brent laboratories have made 70 educational films of their own, and with three more productions lined up, the 100 mark is expected to be reached by the end of 1950.

Leonard Ripley and Co.—already in the forefront of the high-quality lithographic poster production field—are in charge of the printing for Associated British-Pathé publicity and promotion campaigns. The company, who also specialise in letterpress printing, is represented by kinema billing in most of the larger provincial towns, and its more recent work included colour posters for "Private Angelo," "Queen of Spades" and "For Them That Trespass."

Although the firm's interests extend far beyond the film trade, it has catered for most of the large production and distribution organisations.

Strong point of the Ripley policy is to set new high standards in the quality of film poster publicity with special emphasis on colour work.

Elvin Engraving Co., Ltd., is carrying on a 15-year-old tradition of service to Associated British-Pathé. The company is in charge of processing photographic plates, blocks and accessories for the AB-Pathé publicity department requirements, and holds a fine war-time record of uninterrupted activity.

Moore and Matthes, Ltd., are another firm of commercial and colour letterpress printers working in conjunction with the Associated British-Pathé group.

TRANSPORT AGENCY

Northern Transport Agency (London), Ltd., manage film freight and passenger traffic for Associated British-Pathé throughout Britain and overseas. News, feature and documentary films are shipped anywhere by the agency, which is best known, perhaps, for its handling of personal travelling arrangements for film company executives on a world-wide scale. Its transportation facilities extend to the movement of location units and the provision of vehicles for technicians where needed. The agency is one of many years' standing, and today its activities cover the carriage of most things in the film business, from film stars to film cans.

TRAILER SERVICE

National Screen Service, Ltd., make trailers for all Associated British-Pathé product, service and supply the films to kinemas on the ABC circuit, as well as handling National Anthem, special announcement, and seasonal greetings trailers.

Every year NSS handle more than 100,000 different film items for Associated British.

Established more than 20 years ago, the company is responsible for 90 per cent. of all trailer business in the country, and last year sent out three and a half million feet of special announcement trailers. The company also produce their own technical and advertising shorts, and maintain an animation and titling service.

MONOGRAM PRODUCT

Monogram production output is distributed in Britain by Pathé, and an agreement was signed between the two organisations about two months ago whereby Monogram will make a series of films in this country on a total four-year budget of £2 million for release in the U.K. and Empire through Pathé, and in the United States through the company's home distribution set-up. This reciprocal distribution and production scheme gives both Pathé and Monogram a market of world-wide scope. The arrangement is confined to feature films.

FILMING FOR TV

Visiting the B B C's Television Studios at Shepherd's Bush, "Kine." Studio Review writers, *PETER G. BAKER and GRAHAM CLARKE* formed the impression that film-makers could learn a lesson in economies of time and money

BOTH television and British film production have one main thing in common—namely, that they both lose money. British films can seldom be made at a profit and, although there are now nearly three quarters of a million television licence holders in Britain who each pay £1 a year towards the vision broadcasts, the BBC programmes are costing about £1,500,000 a year.

But one thing British studios should keep clearly in mind. It is this. British television is producing something like 30 hours' screen entertainment every week, and during the year viewers are given nearly 100 full-length plays and dramatic programmes. British production is making about 60 films a year and they are costing something like £6.000,000 to make—or more.

Two years ago the KINE. provided readers with an exhaustive survey of all aspects of television developments, both the programmes for home viewer service and the way the experiments were being made to see how television can be adapted to film production technique. Many people believe that too little progress is being made towards revolutionising film production technique, and with electronic aids making the production of a good feature film as economical as the best television programmes and as entertaining as the big feature film as we know it today.

Technicians will tell you that we are rapidly approaching the day when excellent results can be obtained by photographing from a TV tube on to standard film. The BBC does it with certain news programmes and transmits the programme again later in the week. If the film industry used a more "fine" scanning system, say, 1,000 lines, it would be possible to obtain first-class results.

But why are our studios doing so little to learn from the economies of TV? Why should producers and directors insist on perfection in every shot, as though the paying public is going to see the picture as many times as they do in their preview theatres? How much longer can the industry, both in Britain and America, support this costly business of supporting vast units, casts and sets for weeks on end to make one film?

Everyone these days is talking about costs. No one denies that "films cost too much." This is the challenge. What is the industry going to do about it?

Two media that have as their ultimate object the production of moving pictures on a screen might well be expected to have very similar technical methods of arriving at a similar end, but a visit to the BBC television studios at Shepherd's Bush corrects any idea that its means are identical with those of film-makers.

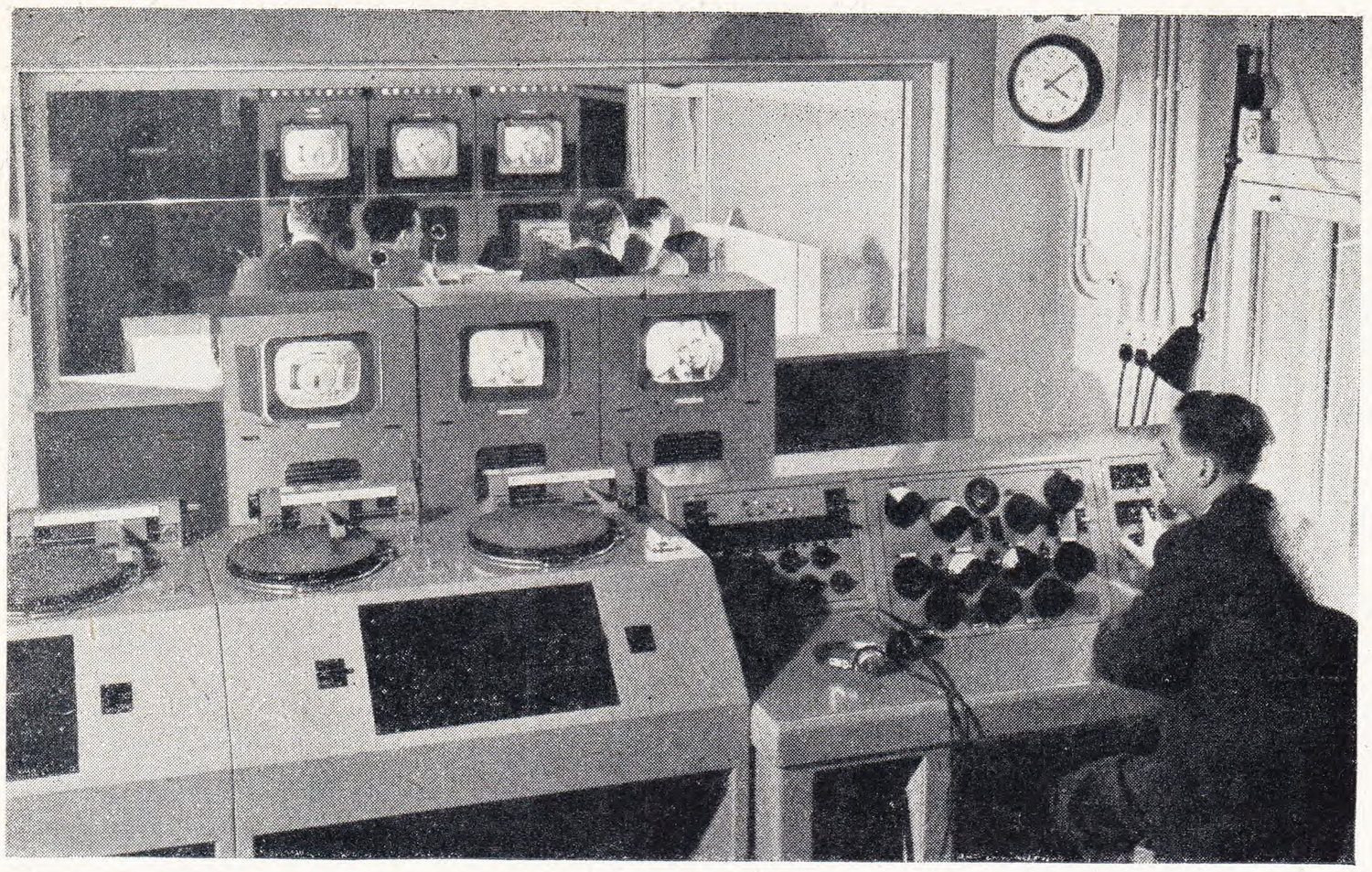
That stops at the extent that both use cameras, microphones, and that the technicians are alike in their enthusiasm for their work.

Points of difference are far more numerous: they include continuity, set building, the use of several cameras at a time, the restricted use of long shots and the impossibility of retakes.

The BBC Television Service is a cleverly constructed organisation designed to be as effective as possible and to provide a good range of entertainment to meet every taste.

The controller of television programmes is Cecil McGivern. Working under him are five programme heads: Val Gielgud, in charge of drama; May Adams, talks and features; Philip Dorté, film unit; Jolly de Lotbiniere, outside broadcasts, with Peter Dimmock as his deputy; Ronnie Waldman, light entertainment, and Cecil Madden, children's entertainment. In addition, Arthur Ozmond has the title of controller of presentation, whose job is flavoured with that basic element of good theatre showmanship.

Each head of department has a group of staff producers. In all, the BBC now has 30 producers contributing programmes, which



The control room in Studio G, the second largest at Lime Grove, with a floor area of over 5,500 square feet. In the foreground are gramophone reproducers for sound effects and the sound mixer's desk, at which the engineer controls and blends the outputs of the microphones in the studio. Facing the engineer are three picture monitors

range from an elaborate version of Shakespeare's "Julius Cæsar" to the frivolous Vic Oliver variety show.

But the television producer is quite unlike the producer as he is known in film production—he just organises his own programme, frequently prepares the script, supervises casting with the BBC casting department experts, directs and rehearses the cast, discusses set designs, talks about camera movement and angles, and, finally, when the programme goes out, edits the entire show as each camera shot comes through to the central control panel.

Dorothea Brooking is a good example of a typical BBC producer. She prepared the series "The Railway Children" from the Nesbit book herself, starting in July of 1950. During that time she produced several other programmes for Children's Hour. Then, starting in February, she produced every week a 30-minute play in the series, lasting for eight weeks.

The output of creative work from these people is almost staggering. Generally speaking, a producer in the drama section will provide one play every four or five weeks, or about eight a year. How many film producers do this?

Central Control

The four BBC stages are used for about three hours' live material each day—always two plays and an elaborate feature each week. A film studio of similar size would be proud if it turned out more than three minutes' screen time each day.

Producers rehearse their programmes a few weeks in advance in West End rooms. They are given many services. Peter Bax, for example, is head of design, with Barry Learoyd as chief designer. Experts like James Bould and Stephen Bundy work in the department and are assigned to productions which need the specialised service of a scene designer. Then there are people like Jeanne Bradnock, wardrobe head at AP, and her second, Mrs. Robb, at the Bush. Much wardrobe material is hired.

During the later stages of rehearsal a cameraman will join the producer. Camera and technical crews work on a shift system. For this reason the Sunday night plays are repeated on Thursday night because this will mean that the same crew is working on the programme. The number of people on the stage for a major production is usually between 20 and 30.

The stage is overlooked by a central control room. The producer sits here, together with a group of assistants. With him is a senior maintenance engineer who is the link between the technical and artistic elements in production.

There is the production secretary, whose task during the whole production is rather akin to a continuity girl. Behind the producer sits the vision mixer. Also in the control room is the sound mixer, who may have to cope with a score of microphones scattered all over the sets, together with special effects and background music.

Watching the rehearsal of the children's play "The Railway Children" that was due to go on the air in less than two hours' time, one's first impression was of rapid efficiency combined with far more off-stage noise than is ever allowed in film-making; the simplicity of the sets and the general flatness of the lighting.

This impression of efficiency was consolidated as the general set-up was explained by R. F. ("Jock") Watson, one of the senior cameramen. The camera crew and the lighting director are quite divorced from each other. The crew consists of an operator, a tracker (who is a sort of combined dolly operator and first assistant cameraman) and a "tilt and bend operator," who has a shooting script from which he prompts the operator for all movements such as panning or change of lens. He also operates the crane mechanism of the standard Vinten dollies that are in use. All are in constant contact by headphone with the producer in the control room.

At the rehearsal only three cameras were being used, two on dollies and the third on a De Brie "iron man" which was movable, but not mobile in the same sense. The purpose of the "iron-man" camera is for fill-in shots while the mobile units are moving to new angles and new set-ups. The static cameras are normally used for training the trackers to become fully qualified operators. As Jock Watson explained, "The only way to get the feel of being on the air is actually to go on it."

In fact, the speed with which units work generally precludes the possibility of normal training, and trackers, who are next in succession to operators, are very often allowed to act as operators for such items as children's shows, where the technical problems are comparatively simple compared with those likely to be met with in, say, a full-scale three-act play.

Jock Watson pointed out that normally the camera unit sees a script for the first time on the actual day of the transmission; very seldom is there time for earlier rehearsal. The script is in extreme detail, giving all the cues for cutting from one camera to another and the sizes of lens used on each shot, among other things.

Avoiding "Knitting"

Combined with this is what is known as the "ground plan." This is most important for it plots the movements of all the cameras and the mike boom throughout the whole transmission. It is the job of the camera crews to work out the changes of position so that their cables keep clear of one another. This task is complicated by the fact that a television stage has sets, or bits of sets, more or less all round the perimeter and, said Jock Watson, "You have to be careful where you plug in your cables. Otherwise you'll end up with a nice lot of knitting on the floor."

Although more off-stage noise is permissible than in a film studio owing to the general (but not exclusive) use of directional cardioid microphones, quietness is naturally essential, and the crew inter-communicates by a "home-made" system of very simple hand-signs. These are used also by the stage manager, whose nearest counterpart in films is the first assistant director: he literally conducts the whole performance, looking as though he could competently join the mime sequences of any ballet.

Standing by his side was the conventional theatre prompter. She trails a length of wire attached to which is a push-button. If an actor misses a line she presses the button which cuts out the whole sound circuit and gives her prompt—and the viewers are none the wiser.

Simplicity of Lighting

The lighting system is more simple than in the film studio because TV cameras are more sensitive, so that fewer lighting men are carried on the units. Producers can also play amazing tricks with lighting. We saw a railway tunnel scene in the studio which was lit by a battery of flat light and one side spot. But the vision mixer was able to turn a knob and increase the picture contrast electronically so that the whole scene on the screen looked very dark with the actors lit in part-silhouette.

Incidentally, the tunnel was only about 20 ft. long, but by making the actors run round behind and keep walking down it, coupled with a clever switch from one camera angle to another, the effect on the screen was that it was miles long.

Similarly, the BBC team has no hesitation in using the most simple of effects to create the most elaborate shots. When a train had to pass down the tunnel all that was needed was a roll of cardboard flickering before a spot light (carriage window patterns on the wall), a puff of smoke from a firework, and the background noise from a record of an express train roaring through a tunnel.

It is interesting to note that all of these technicians were recruited from the BBC engineering staff and that none has any film experience.

Before the camera crew gets to work the lighting expert has usually completed his job. In every case at Shepherd's Bush the lighting man is a BBC engineer, with no film experience. The emphasis in his job is on knowing the power of his lights and the capabilities of the cameras, of which there are two main types—high and low velocity. On the low velocity type the contrast range is rated at 15-1, which means that soft lighting is required to avoid the film lighting man's *bête noire* —"soot and whitewash." On the high-velocity cameras the limit of the acceptable contrast is rarely reached, and this allows for the more liberal use of spots, and more variation.

Generally speaking, however, the main light-

ing is provided by the overhead banks of ordinary lamp bulbs, the candle-power being dictated by the requirements of the subject. In any case the sharpness of contrast and the volume of light seen on the screen can be, and are, varied to the producer's wishes in the central control room.

One of the lighting men, Bob Gray, explained that a normal plan was to flood the set with soft front lighting and then superimpose with overhead spots where required. Only very rarely does he use low-level lighting.

The boom, of course, is a constant source of shadow headaches, but here, again, television is less exacting than the films, and although a mike shadow is often inevitable, the spread of the light source makes it negligible.

Much of this may sound even more haphazard than is some film-making, but actually the nerve centre is the control room. Here the producer has a complete intelligence system of everything that is happening. Here each camera has its own monitoring screen, and the producer, while keeping an eye on what is actually going out to the public, has also a preview screen showing the set-up that is next to follow. In addition, there is a check screen showing the transmission after it has gone from Shepherd's Bush to Alexandra Palace for radiation and thus returned to "The Bush."

Ghosts at Will

The vision-mixer, in every case a woman, who sits next to the producer, is a sort of combination of continuity girl and editor. She cuts the cameras in and out and can, if necessary, superimpose images for ghost shots.

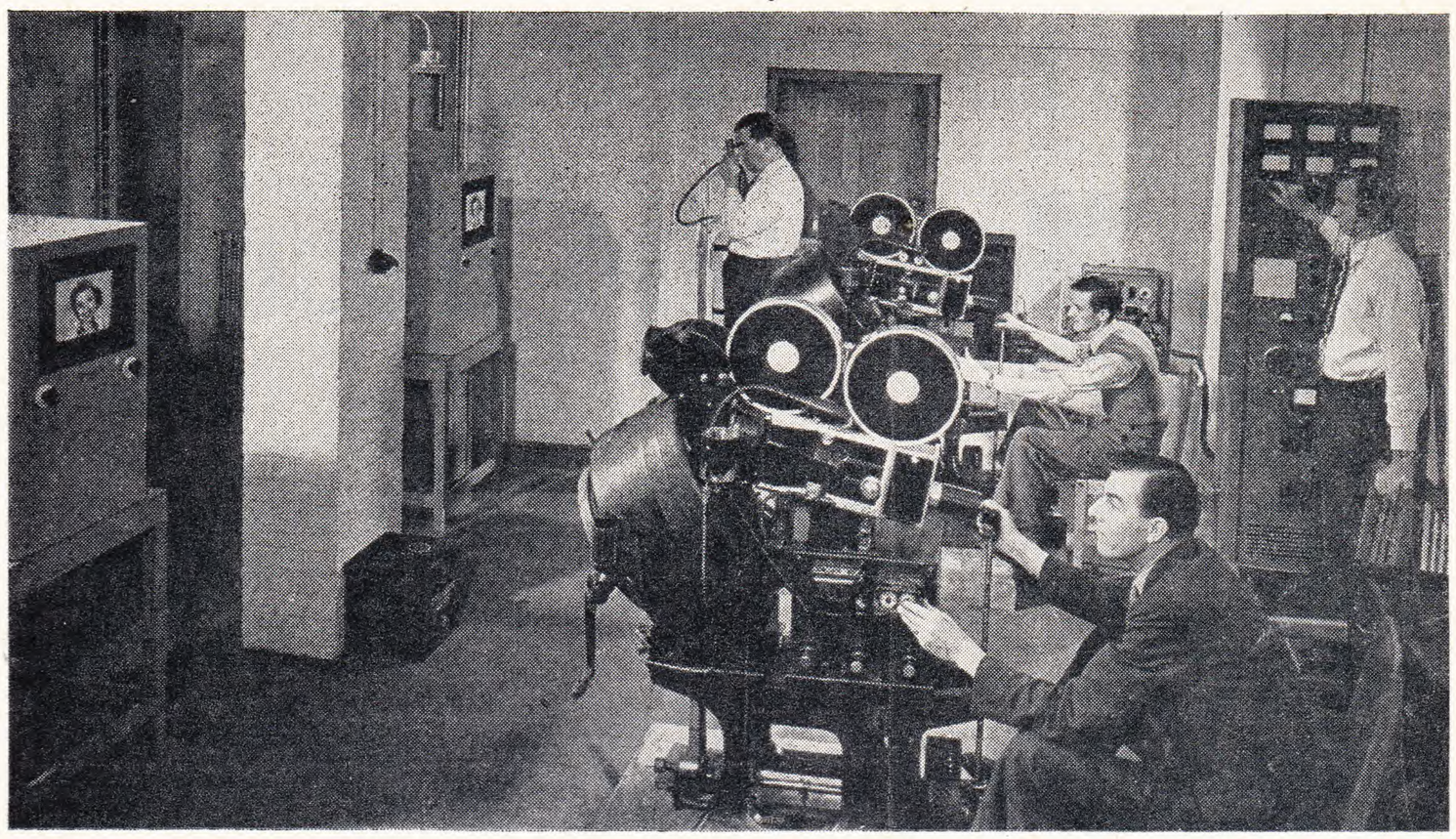
If a camera breaks down during transmission the senior television engineer comes into action immediately, but it is still the responsibility of the producer to decide whether to make an instantaneous change of schedule by cutting to another camera or whether to signal up interval music and train a static camera on a notice which reads: "Normal service will be resumed as soon as possible."

Of the four stages at Shepherd's Bush only two have so far been converted to television. "The film people left the floors in a terrible condition, bumpy and full of nails," said Maurice Hall, the engineer-in-charge, who jokingly described the technical side of television as having "all the troubles of film-making, and others as well." He has an assistant EIC, W. Hatcher, and then his organisation is divided into three shifts, with a senior television engineer in charge of each.

The conversion of the stages (the BBC calls them "studios") at the Bush consists mainly of levelling the floor and laying linoleum; tracks are never used for television shooting.

The two stages as yet unconverted are not by any means idle. They are used for prerehearsal of artists. Watching rehearsals, one cannot fail to be impressed by the simplicity of it all.

Sets are all designed and are prefabricated at Alexandra Palace. They are all so simple and reduced to essentials only that transport presents little difficulty and their storage in one of the empty stages makes for instant availability. Detail, which plays such an important part in the life of a filmic art director, is here reduced to a minimum.



The Telefilm recording room at Alexandra Palace, where programmes (both the pictures and the accompanying sound) can be recorded on film. The television pictures are displayed on the cathode-ray-tube screens on the left. Facing the screens are the two recording cameras, through which the film runs continuously at a speed corresponding to 25 frames per second

In the telecine room we saw a link between the two worlds of film and television. Here is the Mechau scanning apparatus, in conjunction with a television camera, by which film sequences are cut into the live transmission, using interlaced scanning.

Much of the film for this purpose is shot by the BBC's own film unit, which is housed quite separately at Shepherd's Bush, and here, at last, we met some technicians who had previously "been in celluloid."

Our guide here was Donald Smith, children's newsreel producer, who also looks after the film sequences for Children's Hour plays. Also in this department is John Elliott, who has charge of documentary sequences.

For nearly all purposes the BBC television newsreel crews use a Vinten Visatone, with the combined vision and sound-head.

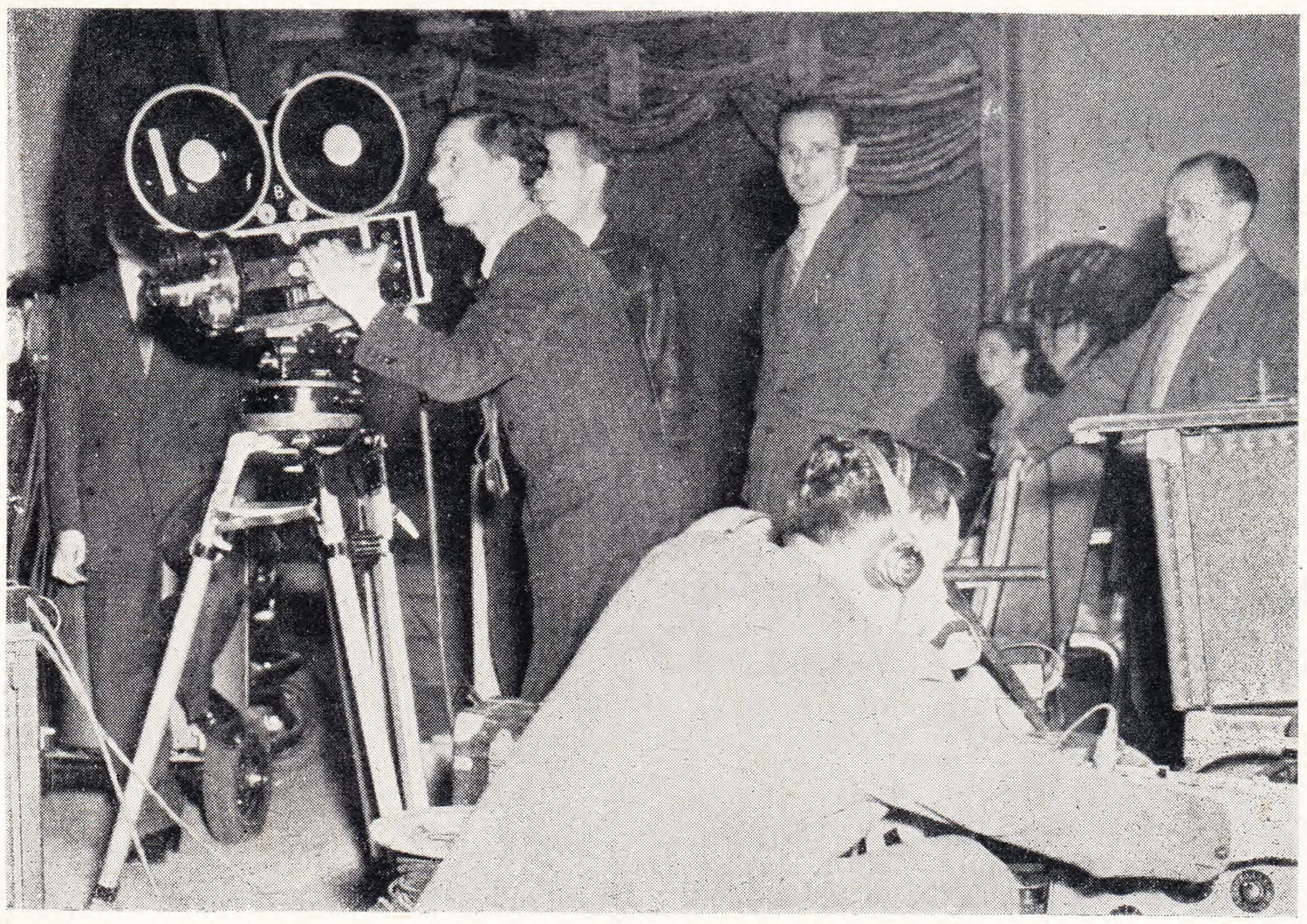
An Hour Enough

On newsreels the unit can put an item on the screen within one hour of shooting it. This is mainly due to the fact that they can show negative, with phase reversed, the actual negative being edited first. As the machines are continuous projectors the wear on the negative is no greater than that in running it through an editola, for instance. Sound is developed separately and then interlocked.

The only time lag, therefore, is in the developing, and the BBC hopes soon to reduce this somewhat by introduction of the RCA magnetic tape recording system. As things are at present, the dubbing session is very often the actual transmission. This frequently applies where a commentary is required, the commentator timing his remarks by a monitoring screen.

One difference between the work of the BBC film unit and that of the kinema trade is that the BBC shoots at 25 frames a second instead of 24; this enables direct transference through the telecine to the TV scanning of 50 frames a second. This speed is the same whether Cintel or EMI apparatus is being used.

In this department, as in the TV studios themselves, one's general impression is that, although the film world has little to learn technically from BBC television, there is a lesson here in economy, both financially and in speed, by the elimination of certain production niceties that have, perhaps mistakenly, come to be regarded as necessities in the film studios.



A BBC Television Newsreel camera unit at work, when it visited Nettlefold Studios to shoot an item on the making of MADAME LOUISE. Dennis Towler is the BBC cameraman on the Vinten Visatone camera, while Leslie Mann, also of the BBC, operates the sound mixing panel in the foreground. Looking on are members of the Nettlefold unit, including Denis Johnson, first assistant; Fred Turtle, sound recordist; Johnny Goddard, stand-by props

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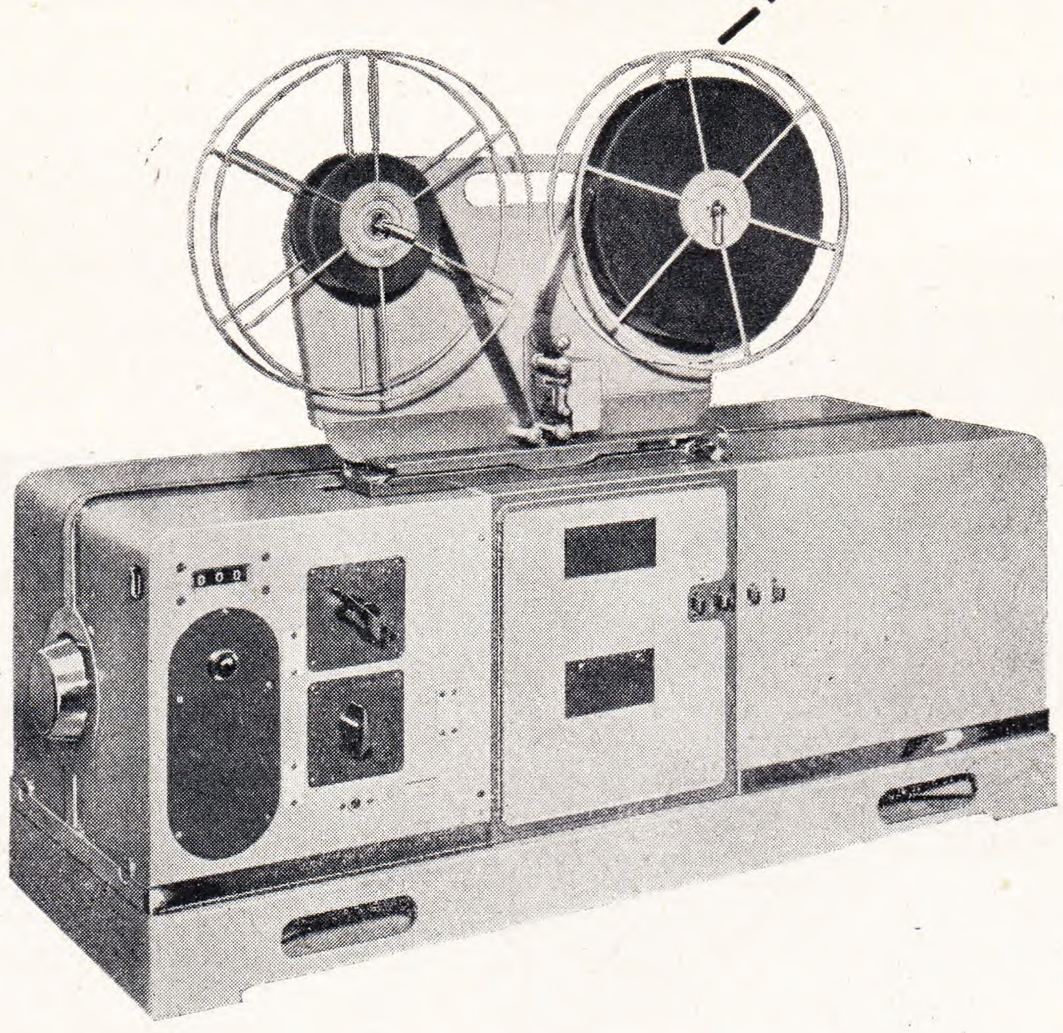

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Where the money goes—

THERE'S NO LION'S SHARE IN PRODUCTION

In this article an independent producer, who is now preparing for a feature to be made at Pinewood, describes the percentages that go to each item of making a feature film.

WHAT is it that makes an average British feature film cost at least £100,000 if it is to have the quality and public appeal that fully justify its place in the British quota?

The remarks that follow are, of necessity, based on average costs; and the most expensive item in picture making is time. You can take any story and make it for £40,000 or £150,000, but the real point is that it must have the quality in the production, because you are seeking to market your film in competition with American products. If you have three or four big stars you must, of course, plan your picture so that it is worthy of their talents.

Your aim should be the most polished production possible for the money so that a finished film will stand up to the competition from the first-feature market.

The yardstick by which you can assess the cost of a picture is the story. If you have a story that is, for example, set in Africa, you must decide whether the value of the story justifies a higher scale type of production than would be necessary for a more domestic type of story which could be made entirely in the studio.

Importance of Story

Having chosen the story (and the story is the film—you cannot hope to succeed with a weak story with all the stars and sets in the world) you must prepare the script. Story values can vary considerably. With a play that has been a fantastic success as a play, you can be fairly certain that is will be successful as a film. But even a very good novel by an unknown writer may not justify the same expense because it has not had the same advance publicity.

Thus it may be a good proposition to pay £10,000 for the right story rather than £2,000 for something that no one has ever heard of.

Story and scripting can be sometimes combined when you buy an original screen play and that tends to be a little cheaper than purchasing a book and scripting it afterwards, but this is not always the case.

From the moment you receive the script three months is the minimum time for preparation and that, of course, entails considerable administrative expenses, some of which, such as that involving conferences with the production unit, is later absorbed into the overall production cost.

Planning normally accounts for about 5 per cent. of the total costs, story and script having already accounted for 5-6 per cent. It is in planning that one learns the importance of time-saving in cost saving. It is better to have a few people, however expensive they may be, planning a film in great detail than to go into production in a half-hearted way and lose time and money later.

What I describe for this purpose as the production unit accounts for 16 per cent. This includes the producer and director. Individual percentage figures of the amounts that a producer and director take from a film can be misleading, because they represent, in fact, what may be 18 months' or two years' work; and there is no disputing the fact that the ultimate success of the picture depends largely upon the director. In this case, it should be admitted that his fees are most reasonable.

A considerable item in the 16 per cent. for the production unit is overtime for technicians. It is possible for overtime to account for as much as 50 per cent. on a technician's basic salary.

Another 15 per cent. can be allocated to cast, including stars, small part players and crowd. This item, of course, varies considerably with the type of picture and the value of the star artist. If, for instance, you have a subject that appears to call for very well-known stars this could easily increase the total cost by, say, £40,000, but it would also increase the market value of the picture by considerably more than that figure. An encouraging feature is that there is definitely a tendency now towards a lowering of cast costs.

Set-Building Economy

Approximately 14 per cent. goes on sets. Under this heading I include the whole mounting of the picture, the art director and his personnel, such as scenic artists, model makers and property buyers, the labour to construct the sets and to rig the sets and lights, and the floor labour during the shooting of the film.

The cost of set construction is ruled by the amount of pre-planning. The closer the director and the art director work at this stage the greater can be the economy in set building.

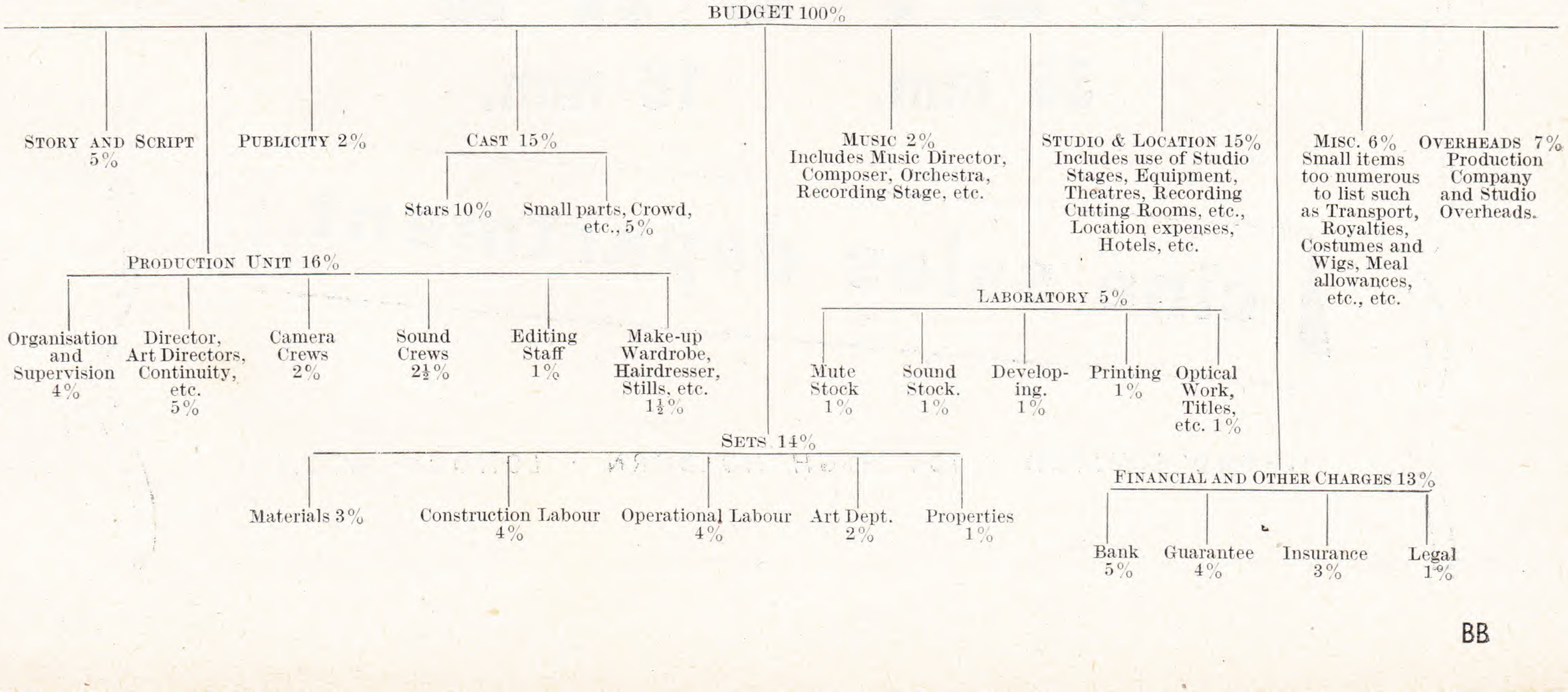
Under the heading of studio rent (10 per cent.) comes the stages used, all the equipment, whether supplied by the studios or hired from outside, the use of recording, dubbing and music facilities, cutting rooms, dressing rooms and production offices, etc.

This item must be taken in conjunction with location expenses. One week's location costs approximately the same as one week's studio rent, which means that these two items combined account for 15 per cent., whatever the proportion between studio and location.

Sundry miscellaneous items include royalties, etc., at 6 per cent., transport (an increasing item these days) at 3 per cent., music charges at 2 per cent., insurance at

Continued on page 14

This chart represents the kind of breakdown likely to be faced by an independent producer making an average £100,000 feature at an independent studio.



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TRAVELLING MATTE AND SPECIAL EFFECTS

Their advances and justification discussed by

R. HOWARD CRICKS, FBKS, FRPS

ON consecutive nights last month two particularly interesting meetings were held. First was a demonstration by the J. Arthur Rank Organisation of its newly developed travelling matte process; the following night, two technicians who are responsible for the special effects in many British films, T. W. Howard, FBKS, and Alfred Junge, MBKS, discussed the practical use of such effects, the latter emphasising the economic aspects. The two meetings may logically be reported together, the BKS meeting first.

Tommy Howard first discussed the applications of process projection. He pointed out that normally it was necessary to use a very long throw in order to secure a uniformly lit picture on the screen. He showed how it was possible to reduce the throw, and so save floor space, by inserting mirrors into the beam. In order to avoid the necessity of movement of the projector for different set-ups, a periscope system had been constructed in which the second mirror was mounted on a rotatable boom; by this means an apparent elevation of up to 17 ft. from the studio floor can be obtained, while by tilting the projector and swinging the mirror to the lowermost position, an effect can be obtained of shooting below floor level. This system was, he said, used on the MGM picture "The Miniver Story."

Painting Movement

Another method of producing a background behind a studio foreground is the painted matte process. In the general application of this system the photographed scene is projected in the matte painting studio, and there artists paint in the required addition to the scene, this being carefully matched to the photographed scene so that the final impression is of a composite whole. It is even possible to add moving clouds, water or smoke.

Camera movement has been effected in this process, by means of Selsyn motors, controlled by a recording of the movements of the original camera, and geared to the camera photographing the matte. Unfortunately no change of perspective is possible on the matte, and panning on a scene tends to reveal the flatness of the painting.

The terms "miniature" and "model" should be differentiated; the former is a reduced scale reproduction of buildings or perhaps a complete landscape; the term "model" is used to describe the diminutive layout of a set constructed by the art department.

Miniature Tricks

The justification of a miniature is when camera movement is required. A set in "Rembrandt", had the lower part only built full size, the tops of the buildings being a miniature. The camera was set up to pan by means of a nodal head. An instance where the use of a miniature was essential was in "The Man Who Worked Miracles," where, in the end-of-the-world sequence, all the buildings and trees break up and fly into the air; in this case the model was simply built upside-down. Another instance was the temple scene in "Samson and Delilah."

Tommy Howard next discussed a process of which considerable use was formerly made, but which, for some reason, is not much employed today; projection printing. In this system, the action film is projected frame by frame upon a miniature screen, and any required parts of the scene can be painted out or new material painted in. The combination of film frame and painting is then rephotographed.

My first introduction to the travelling matte process was when some ten years ago Tommy Howard demonstrated to me the methods he used in producing the effects—then thought most remarkable—in the Technicolor film "The Thief of Bagdad" — the flying carpet, the giant genie and other marvels. He is at the moment using an identical process in "Quo Vadis." He tells me, however, that he used the process 20 years ago, while W. M. Harcourt, of Denham Laboratories, recalls having used it in 1927.

The essence of the travelling matte process is the production of a film which is a silhouette of the foreground set and action. The new process announced by the JARO is a modification of the Dunning process.

In its original form the latter was purely a camera process. The background was first filmed, and a print was processed to a yellow-toned transparent dye image. This film was threaded in the camera, in front of the negative stock. In the studio the foreground was lit with yellow light, and a plain backing was lit with blue light. The effect of this arrangement was that the yellow light from the foreground passed through the yellow image and exposed the negative stock; but the blue light from the background was obstructed by the yellow image which was consequently printed upon the negative. Thus, the background image appeared on the negative only where there was no foreground.

Added Flexibility

Perfections in the duping process and the development of the optical printer made it possible to add flexibility to the process. Instead of the background film being threaded in the camera a bi-pack was used, consisting of the panchromatic negative stock behind a blue-sensitive stock. The latter registered only the light from the blue-lit background, and thus produced a clear silhouette of the foreground. In the optical printer this silhouette was used as a matte for printing the foreground image, while a print from it became a matte for printing the background.

The advance represented by the process now demonstrated by the JARO is the substitution for the bi-pack of a beam-splitter system. Identical in principle with a Technicolor camera, the beam-splitter camera exposes the pan, and blue-sensitive stocks in separate gates, so producing sharper images.

The perfection of the process was demonstrated by a number of films which were introduced by Spencer M. Reis, the technical and economic principles being discussed by a team of technicians.

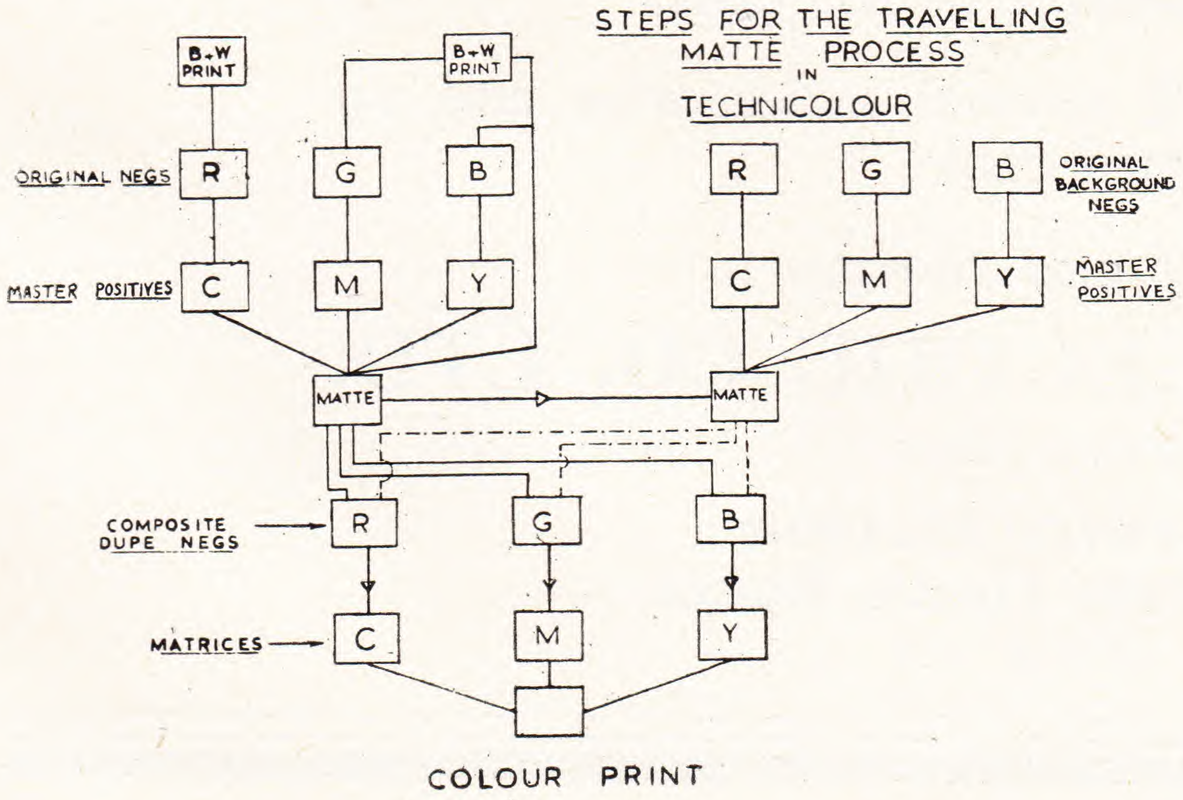
The demonstration film opened with a shot of a magic carpet, incongruously flying over the River Thames. There followed a number of shots in which normal BP was contrasted with the TMP. We saw Anne Todd standing on the Duke of York's steps, in Regent Street; in BP the steps were soft—in TMP they were sharp and well defined, and, indeed, the shot, like a number of other shots, could not be distinguished from a location shot. We saw a number of twin and triplet effects, all outstandingly realistic.

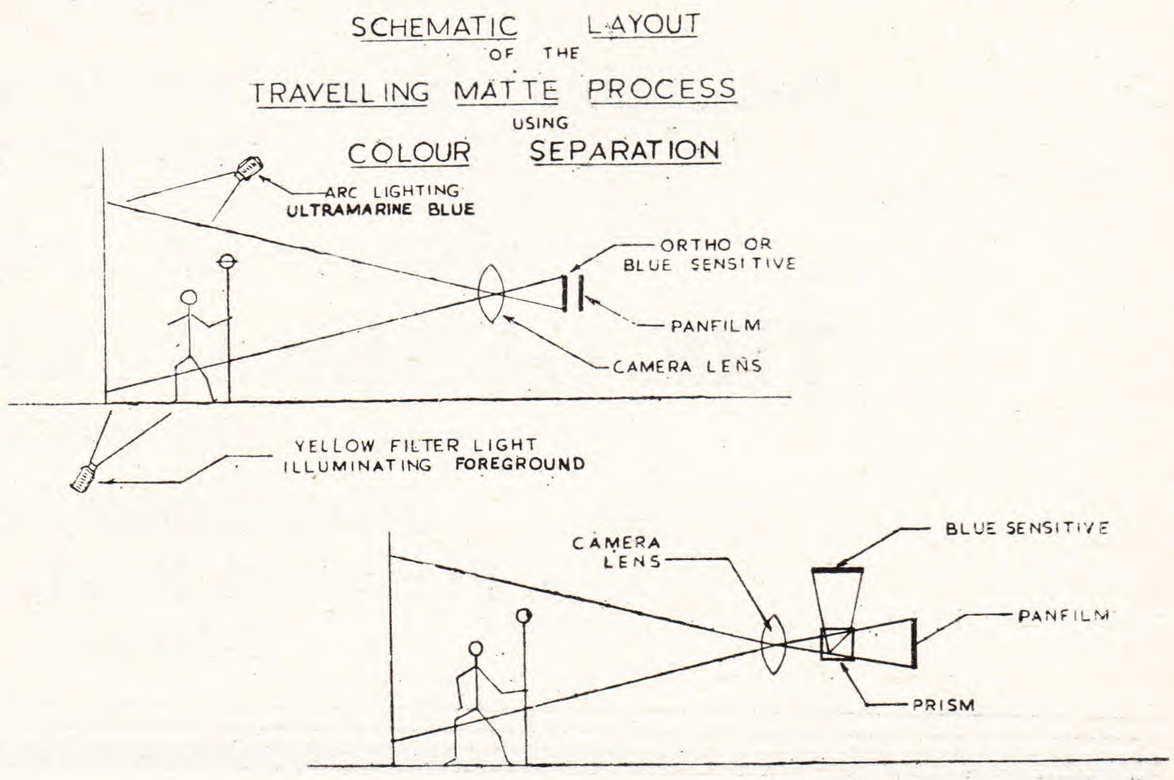
The commentary to the film emphasised the advantages of the process over BP, notably the greater sharpness of the image, the saving in studio space, and the greater flexibility due to the background being chosen and added after shooting. The background is lit by 150-amp. arcs, fitted with blue filters which are expendable. All TMP material must be processed at Denham Laboratories.

In course of the subsequent discussion W. M. Harcourt emphasised that the background could be softened if desired. Mr. Reis explained that the system was available to any studio, the charges including hire of camera and crew and supply of filters.

Tommy Howard's most outstanding work in the travelling matte process was, as I have indicated, in Technicolor. As in black-and-white, the backing in the studio must be blue, but the foreground is, of course, normally lit. In this case, the density of the image of the backing upon the blue negative is about 1, and on the green negative about 0.5: a print is made from the green negative and the difference between this print and the blue negative is in the density of the foreground image—on the

Continued on page 11





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ROAD TO SUCCESSFUL PRODUCTION

Phil C. Samuel, MBKS, Points a Way

THE four essentials of a successful film are the choice of the right subject, appropriate artists, correct conception, and the right planning or style. This was the opinion of Phil C. Samuel, MBKS, who addressed the BKS Film Production Division on March 28.

Referring to the choice of subject, Mr. Samuel said there are four sources of material: a successful stage play, a best-seller book, an original story commissioned from a good writer, and an original already written. The problem of the stage play is to transfer it from one medium to another. In adapting a book, many of the episodes have to be cut out, and the adaptation is full of pitfalls. An original story will probably not be obtainable when it is wanted, and, furthermore, it may be based upon a conception of artists who are not available. The third choice is, therefore, often the safest.

The choice of artists introduces the difficulties of the star system. "Successful films," said the speaker, "have, of course, been made without stars, but the producer who does so is taking a much bigger risk."

On the general conception of the film, the producer must decide whom it is being made for, the audience, the critics or himself. Mr. Samuel had, he said, made a point of visiting kinemas in all parts of the country, and had been astounded at the different reactions of audiences in different parts. As to the critics, he read extracts from a number of lay Press reviews of two films, "Mr. Polly" and "The Rocking Horse Winner," which were contradictory in almost every respect. For these reasons the producer might think it better to make a film to please himself.

The selection of the right planning or style of the film introduces the major problem of mass psychology. Blind people go to the pictures and use mass psychology—the feeling of the audience around them—to supplement the sound in their understanding of the picture. The audience must be put in the right frame of mind before a big scene—the scene prior to a dramatic scene should be getting more tense, the audience must be put into a lighter frame of mind before a comedy scene.

It is just as serious a mistake to under-estimate as to over-estimate the audience's reaction and power of reception. A clever montage may overstep the mass imagination by losing for a few seconds the flow of the story.

Mr. Samuel concluded by summarising the duties of the producer.

Important factors in a successful film, the speaker said, are story, simplicity, sincerity. That is why the British film is again beginning to find a world market, because sincerity is a vital power, and is very English.

A matter raised in the discussion was the budget. "A normal picture," commented Mr. Saunders (Ealing), "has great difficulty in reaching a return of £150,000 to £200,000; why, therefore, spend so much money on the film? Is the reason for the high budget the cost of stars?"

Mr. Samuel stated that the reason for the high cost was not the salaries of stars nor of technicians; the biggest item was the cost of studio space. "We have also to pay so much for permission to make the film—as interest on loans."

Replying to R. Hoult, the speaker thought that colour should be used only when it helps the story; often it detracted from the drama.

Ralph Hart (Ealing) asked for his views on the relative costs of location as against studio working; the speaker thought location shooting was as costly as studio shooting because of the uncertainties of the weather.

TRAVELLING MATTE AND SPECIAL EFFECTS—Continued

blue negative the shadows are clear, and on the green print the highlights are clear. Therefore superimposition of the two films gives a solid silhouette.

Ten years ago, when "The Thief of Bagdad" was made, there was some difficulty in avoiding the appearance of fringes around the foreground images. Today, advances in the construction of the optical printer and in non-shrinking film stocks have enabled the process to be brought to a high state of perfection, and it has been widely used in "Quo Vadis."

A rather different application of the process was projected at the end of Howard's paper, a sequence from the Warner film "A Stolen Life" (in black-and-white) in which Bette Davis appears as twins. The illusion was perfect.

Alfred Junge covered a rather wider field in his paper—it could in fact serve as a summary to the others. His theme was the rationalised use of special processes, and he said the first question he asked was: "Is this really the best way of achieving the desired result?"—emphasising that by "best" he meant both the most economical and the most convincing.

First he showed a most realistic storm sequence from "I Know Where I am Going." The whole sequence had, he stated, been produced in the tank at Denham; attempts had been made to film a genuine whirlpool, but the effect was unconvincing. The sketches show the method actually used.

The boat was mounted on a rocking device to provide all the movements required. The waves, with the horizon and clouds, were all artificially produced and photographed for BP plates. Inside the tank was placed a round tank, 30 ft. in diameter, a few inches under water level, and through its walls were fixed 16 nozzles connected to fire hoses driven by six fire engines. Water was sucked out of the tank through a hole in the bottom and pumped in with tremendous force through the sides. Dry ice gave a boiling effect. Foam was spread on the water, and hand-operated wave machines were set in motion; on the opposite side two aeroplane engines produced a gale.

Diagram showing a whirlpool effect in the tank at Denham

A back projection set used for a sea scene at Denham for I KNOW WHERE I'M GOING

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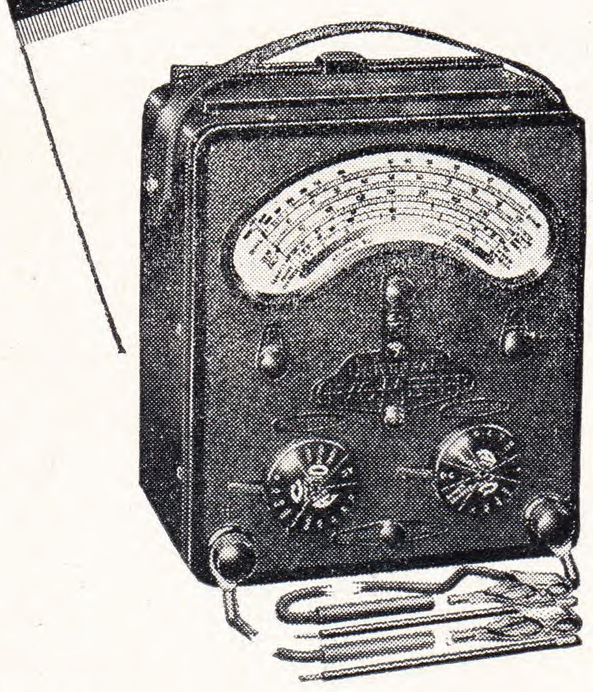

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IS FILM PRODUCTION OLD FASHIONED ?

Vinten tells technicians better equipment is vital

LONGER TAKES THE OBJECTIVE

IS the clapper board out of date? Should arc adjustments be motorised? Should cameramen wear earphones? Would improved equipment lead to longer takes? These were some of the controversial subjects debated at the meeting of the BKS Film Production Division on March 21; they were raised in a paper by Charles Vinten, MBKS.

Mr. Vinten first contrasted the output of the film studio with that of a newspaper office and of a television studio. Television can rehearse and put over a whole play in a matter of a few hours; the badly planned film that drags into week after week in production and retakes hardly measures up to these examples as a sample of business efficiency.

Ealing Example

As an example of the pre-planning of the artistic side of the film, Mr. Vinten showed a copy of the picture script now being used at Ealing in which sketches embodied in the script illustrate the picture as it is intended that it should be photographed, together with indications of camera movement. A further much-needed development is a means of playing back the picture immediately, instead of seeing the rushes on the following day; this might mean the elimination of cover shots, so that 20 minutes screen time could be got into the can in a day.

Mr. Vinten emphasised that his remarks were not intended as a criticism of directors, but, he said, indicated the use in the majority of studios of out-of-date equipment. "Directors are required to turn out a first-class modern film, and we ask them to use clapper-boards, tape measures, chalk marks on the floor, megaphones and inaccurate viewfinders."

He illustrated by a number of slides how the "Everest" camera overcame some of these objections. The rangefinder, coupled to the lens focusing, enabled focus to be set correct to within inches; the yellow margin to the viewfinder image enabled the cameraman to ensure that the microphone was not too near the camera view-line; the fact that viewing was effected through the taking lens (by means of a mirrored shutter) meant that parallax errors were eliminated.

These developments might, it was suggested, lead to an increased use of the long-take technique. A recent paper in the *SMPE Journal* described equipment permitting a number of cameras to run one after the other, the respective cameras being identifiable on the negatives. To indicate the problems to be overcome, two reels of "Rope" were shown.

Replacing the Clapper

The long take, suggested the speaker, would necessitate cameramen wearing earphones in order that the director might give instructions during the take. The silent turnover, in which synchronising and identifying marks were recorded electrically upon the two films, should replace the clapperboard.

The studio should take a more direct interest in the preparation of foreign language versions, for which improved equipment was needed. The export of films abroad might make the difference between loss and profit.

One of the most time-wasting jobs on the studio floor is the setting of the lamps. It was suggested that motors and reduction gears should be fitted to lamps, so that any lamp can be controlled from the floor. A further suggestion was that these motors should be controlled by built-in photo-cells, so that by merely shining a light to the appropriate part of the lamp, the cameraman could secure any desired movement.

A power-operated dolly is in course of development, which could be fitted with an automatic control, so that if the action is correct on rehearsal the truck will repeat exactly the same movements any number of times.

To assist actors who tend to fluff their lines it was suggested that a screen carrying a running script should be provided as in the De Lane Lea process.

Critics' Points

Many of Mr. Vinten's proposals were challenged in the subsequent discussion.

P. C. Samuel commented that the primary object of the silent turnover—which he had introduced at Denham—was not to save time but to enable the camera to be run without the knowledge of the artists, who would think they were still rehearsing.

D. Forrester recalled that the system had been used by Fidelitone in 1929, while R. H. Cricks mentioned that Mr. Vinten's father had proposed a similar device for slating in silent films.

On the subject of motorised lamps, Baynham Honri, the chairman, referred to the impossibility of using top lighting in genuine interior shots, as a result of which the cameraman tended to use floor lights rather than overhead lights.

Referring to the proposal to provide the cameraman with earphones, Mr. Wheeler objected that the director never gave instructions directly to the camera operator.

An interesting problem was raised by R. Hoult: when the "Everest" camera with its mirrored shutter viewfinder was used on back projection how could the cameraman see the image on the screen, since the projector shutter would be closed while the mirrored sector was in action? Mr. Vinten explained that, due to the difference in cover time between the projector and camera shutters a faint image could be seen.

NOW managing director of the firm which his father founded, Charles Vinten is a man of many interests and wide experience of the trade, not only in the sphere of studio and processing equipment manufacture.

Educated at Margate College, he spent two years with the Williamson Manufacturing Co. on aerial survey development. He managed three kinemas in Buenos Aires for the British-South American exhibition and opened the Lisboa Films studio, the first and only sound studio in Portugal. He joined Vinten in 1927 and worked in the various shops and departments before becoming managing director in 1938. A flying enthusiast, he pilots the Vinten 'plane on business trips to the Continent.

MUSIC CAN SELL A FILM

THE value to a film of musical publicity is a matter that has lately been the subject of special exploitation by Francis, Day and Hunter, which, founded in 1877, claims to be the oldest popular music publishing firm in the country.

About two years ago the firm opened a branch at 16, Soho Square, W.1, to deal exclusively with light and classical music, and it is here, in the heart of what is fast growing into a new and thriving centre of the kinema trade, that Brian Bradley has charge of the exploitation of music for Francis, Day and Hunter.

Plugging on the Air

The executive planning behind the idea comes from Leslie Abbott, a director of the firm, who argues that his method of popularising a tune and the film it comes from through the BBC, for example, reaches more people at a time than can any form of advertising; for, if a tune goes over the air, it has a potential audience of 8,000,000 every time.

This has been proved already in several cases. The song, "My Foolish Heart," from the RKO-Radio film of the same name, for instance, headed the BBC's "Hit Parade" for 13 weeks, and "Buttons and Bows" became so well known that "The Paleface," in which it was featured, was advertised as "The Buttons and Bows Picture" at many situations on general release.

At present, Francis, Day and Hunter is exploiting "The Galloping Major" in the same way well before the British Lion-Independent picture of that name goes out to the public.

Mr. Abbott believes that a great deal of film background music could be similarly exploited, in cases where it has a definite melodic theme, instead of being lost forever when the picture completes its showings.

Vocals can be prepared and published in a matter of a few days, though it takes longer, of course, to get them included in band leaders' programmes. Orchestral versions, however, need two or three months of preparation owing to the complexities of arranging, engraving and printing; the firm's orchestral versions are normally so arranged as to be adaptable for anything from a three- to a 40-piece combination.

Mood Music

The premises at Soho Square are also the home of the firm's "Mood Music," high fidelity recordings. These are specially transcribed for radio and theatre, as well as for newsreels and other films. Played by the New Century Concert Orchestra, conducted by Sidney Torch, they cover an extremely wide variety of subjects and moods.

Current Production Chart

Studio and Subject.	Stars.	Director.	Lighting Cameraman.	Producer and Renter.	Weeks on Location.	Progres on Stage (weeks)
DENHAM—Denham 2345						
"The House on the Square" ...	Tyrone Power; Dennis Price ...	Roy Baker	Georges Perinal ...	Sol Siegal: 20th Century-Fox	—	8
EALING—Ealing 6761						
"Secret People"	Valentine Cortese; Serge Reggiani	Thorold Dickinson ...	Gordon Dines ...	Sidney Cole: GFD	—	3
ELSTREE (ABPC)—Elstree 1600						
"The Magic Box"	Robert Donat; Margaret Johnston	John Boulting	Jack Cardiff ...	Ronald Neame: Brit. Lion...	—	12
EXCLUSIVE—Windsor 67						
"Death of an Angel"	Patrick Barr	Charles Saunders ...	Jimmy Harvey ...	Tony Hinds: Exclusive ...	—	1
MERTON PARK—Liberty 4291						
"Mystery Junction"	Barbara Murray; Sidney Tafler ...	Michael McCarthy ...	Bob Lapresle ...	W. H. Williams: Anglo-Amalgamated	—	2
NETTLEFOLD—Walton-on-Thames 2414						
"Madame Louise"	Richard Hearne; Petula Clark ...	Maclean Rogers ...	Wilkie Cooper ...	Ernest Roy: Butcher's ...	1	6
PINEWOOD—Iver 700						
"Secret Plan X23"	Andre Morell; Liam Redmond ...	Roy Boulting	Gilbert Taylor ...	Paul Soskin: GFD	3	4
"The Valley of Eagles"	Jack Warner	Nadia Gray	Terence Young	Nat Bronsten: GFD ...	6	2
SHEPPERTON—Chertsey 2211						
"An Outcast of the Islands" ...	Ralph Richardson; Trevor Howard	Carol Reed	John Wilcox ...	Carol Reed: British Lion ...	6	9
"The Lady With a Lamp" ...	Anna Neagle	Herbert Wilcox	Max Greene ...	Herbert Wilcox: British Lion	—	1

BOOKS—Spotlight on Films

Reviewed by P. L. MANNOCK

IN this book, compiled with obvious care and research, and written with consequent authority, Mr. Larsen, who has worked with the Crown Unit on documentaries, gives us one of the most comprehensive volumes on films of recent years.

Seldom has the story of motion picture origins and development been summarised so succinctly, even though this has meant the omission of the names of Le Prince and Friese-Greene from the pioneers. The advent of talkies is treated with vividness.

A survey of modern film-making from the germ of a story idea to the ultimate public screening covers most of the rest of the volume, and the fascination of scripting, studio organisation, casting, direction, location work, cutting and music is never over-romanticised, nor does it make any demand on technical knowledge on the reader's part.

It is perhaps rather idealised; not many films are made to such specifications of preparation and system, such as the woman literary editor whose routine includes re-reading the classics in bed!

A verbatim script conference, however, is illuminatingly practical; and, indeed, the personal factor, from stars to clapper-boy, is recognised as the most important element in the history as well as the practice of movie-making.

Slips in such work, easy to make, can be forgiven for their paucity. Most writers, after all, omit the word "The" in front of "Green Pastures" and "Red Shoes." Less trifling is calling "Pygmalion" the first Shaw play filmed, and dating Hitchcock's "Foreign Correspondent" as pre-war. Mr. Larsen does not shrink from detailing the bad elements in too many films, and pays tribute to those critics who by candour contribute towards raising standards. Altogether a highly informative and readable book, well supplied with photographic illustrations of processes as well as of notable films.

Egon Larsen (Max Parrish, 15s.).

On "The Marx"

"THE Marx Brothers," by Kyle Crichton, is one of the more enjoyable books of its type. Instead of excerpts from the particular star's or stars' career, generally lacking in continuity, Kyle Crichton has started from the beginning when the brothers were children living from hand to mouth on 93rd Street, and made a straightforward, absorbing and amusing story of their lives.

The narrative reaches a climax when the boys became established favourites. Their final entry into films will be of particular trade interest, as not only is it typically Marxian, but it shows how Hollywood was finally won over.

It is indeed a book which keeps the reader interested throughout, and one which, in the reviewer's opinion, will be enjoyed not only by Marx Brothers' fans, but the trade in general.

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WHERE THE MONEY GOES—

Continued from page 7

3 per cent., legal charges at 1 per cent., and publicity at 2 per cent.

Financial charges, including bank interest, guarantee of completion and other smaller items, account for 9 per cent.

In addition to all this, there must must be an allowance of something like 7 per cent. for overheads. This covers not only the overheads staff at the studio used, but also the costs of the production company itself.

It will thus be seen from these percentages that no one item alone is out of proportion to the overall charge. A producer is like any other businessman. He has to go out into the open market to buy his goods, whether they be materials or talents, and he is always in competition with other producers.

Although the cost of some items is rising, one can generally say that the cost of production has been stabilised. Both producers and studios are now acutely aware of the cost question in relation to production; and the cost control during the actual making of a picture is now very strict indeed.

One is constantly searching for ways and means to make further cuts in the cost of production, without detriment to the picture as a saleable article. That is the crux of the matter. It is always a mistake to be cost-conscious at the expense of the artistic qualities of the director and his crew, and always right to curb the artistic element from unnecessary extravagance.

45,000 New T V Owners

In February 45,050 new television licences were issued by the GPO, compared with the record figure of 71,850 in January.

The latest GPO statistics show that 703,000 TV licences were current at the end of February.

THE "KINE." PUTS

The Focus on COLOUR

An outline of some of the more important recent achievements in colour photography

By PETER G. BAKER

COLOUR motion picture photography is almost as old as the movies themselves. It very early exerted its fascination upon William Friese-Greene, who experimented with a mechanical system which has its devotees even in these latter days, while hand-tinting was brought to a fine art in France thirty years ago. Between the wars scores of scientists offered to the trade a variety of additive, subtractive or purely mechanical processes, but few of them survived the rigorous test as to whether or not they were commercially practical. It is now, and has been for many years, a relatively simple chemical process to produce an acceptable colour effect on the screen. But, with few exceptions, it has not been possible to produce such a process that can be achieved cheaply and which can be adapted to the mass production technique.

Among the few pre-war colour systems to survive are Technicolor, Cinecolor, Kodachrome (almost exclusively used for 16-mm.) and Dufaycolor, which failed to fulfil the early promises of becoming a rival to Technicolor.

WE have now reached a stage in colour development when exhibitors will tell you that for certain types of films (musicals for example) colour is indispensable if the film is to appeal to patrons.

That is an important point, because, whereas exhibitors want as many films in colour as possible, producers have to watch their budgets. And for many reasons colour production is still a costly business.

During recent months several new processes have been developed with a view to making them available for large-scale commercial production. The purpose of this issue of STUDIO REVIEW is to present an outline of some of the more important recent achievements in colour photography.

No system has yet challenged the commercial supremacy of Technicolor, although one or two other processes, such as Cinecolor, have found favour for first-feature production in Hollywood studios during recent months.

Technicolor, which was thirty years ago a two-colour process, was developed later into three-colour under the guidance of Herbert T. Kalmus, but was not used in Britain until 1935. The first British-made Technicolor feature, "Wings of the Morning," was given its first showing in 1937. Since then 38 Technicolor features have been completed in British studios.

The system, which is known to every professional cameraman, needs no elaboration in this supplement. But it is important to emphasise that Technicolor, good as it is in picture quality, owes its real success to the fact that it was the first system which was able to provide the industry with a "lithographic" process by which an almost limitless number of high-quality duplicates could be made quickly—and cheaply.

It is this all-important business of providing dupe negatives and scores of colour positive prints which is delaying the expansion of other media, excellent though they may be in colour quality.

But for the producer, Technicolor has certain drawbacks. The use of the material demands additional lighting on the sets, elaborate make-up for artists and careful matching of materials in order to obtain a true colour on the screen. Although a Technicolor system employing monopack has been experimented with by some producers with good results, particularly on some recent locations, the general practice calls for special Technicolor cameras complete with trained crew. And some producers find it an annoyance to have to wait several weeks for final colour prints of their work, making do with a monochrome print for "rushes."

TECHNICOLOR is very expensive for the producer to use compared with black-and-white production. It's not a medium which production budgets could afford for every picture, even were camera and processing facilities available. For the renter, however, Technicolor can offer prints at competitive rates which no other colour company would appear to have challenged.

In the following pages there are expert reviews of the work being done on Gevacolor, Chromart, Alfacolor and Kodachrome.

We have not seen the final result of these processes on the screen, except, of course, the long-established Kodak process. But, according to the writers of these reviews it appears that substantial progress has been made towards providing a variety of systems for producers with many advantages and at costs claimed to be little in excess of costs for black-and-white work.

These developments are important and must be given the full consideration they deserve by all those connected with the production side of the industry.

In addition to the processes named, there is the long-established Dufaycolor, a reversal-development system based on the use of a mosaic of minute colour filters set in the base of the film. The faithfulness of the colour reproduced has won this system particular favour among medical and scientific workers who need to make exacting colour photographic records.

THE Radiantcolor and Cinecolor organisation in Britain is now making rapid progress. Several features have recently been released in the Cinecolor process, and there is every sign that the result has been well received by kinemagoers. Sir Sidney Clift chairman of the British Cinecolor, tells the KINE. that he is unable to provide any technical details at present because the company is in the midst of getting into the three-colour line. "Cinecolor three colour is the best colour of all," he claims, "and with the greatest respect in the world it will not require any publicity to sell it. We are at the moment being stormed for two colour and what will happen when the three colour is fully on the market, I really cannot say, because it stands alone in the colour world."

A recent process in Britain has been the Ilford colour system, so far put on the market exclusively for still photographic purposes. R. S. Liddle, home sales manager, informs the KINE. that his company is not anxious at this stage to give the trade a detailed review of the system "as we have many changes which are likely to come about very soon, and any information we could give would shortly be either obsolete or, on the other hand, of a premature nature."

LITTLE is known in this country of the Agfa and Ansco colour processes. What we have seen of the wartime German work with Agfa has mostly been of a high standard. J. Kneeland Nunan, manager of the professional motion pictures sales department of the American Ansco corporation, tells me that his process is being used now in Hollywood and is finding wide acceptance. "We are all very pleased with the enthusiastic comments we are receiving from kinematographers and producers in the industry, and believe that we are on very firm ground as to the future in colour photography and printing."

In making this introduction to the KINE.'s first post-war review of colour, some reference must be made to the laboratories. In any development of this type it is invariably the laboratories which have to tackle new problems and make a scientist's invention a practical proposition.

Denham Laboratories, you will see, is being equipped to process material of the Chromart type. These comments are made to the KINE. by W. H. Harcourt, managing director of Denham Laboratories:

"We have equipped extensively for the processing in integral tripack and bipack

Continued on page 9

GEVACOLOR

by T. H. WILLIAMSON
Manager—Cine Department

A negative/positive process comprising a negative that can be used in any standardised 35-mm. camera but with the exception that the speed is slower than that of the black and white, and therefore entails slightly increased exposure. No further or extra equipment is necessary

THE Gevacolor negative can be processed by any trade laboratory which has made the necessary alterations to its plant in order to handle colour film and the print can be made and delivered in a period of time not greatly exceeding that for black and white. Rushes, for instance, if a perfectly graded first print is not necessary, could be quite rapidly supplied.

Monopack Negative

Gevacolor negative is a monopack film comprising three separate colour sensitive emulsions on the same side of a common base which can either be the usual nitrate base or our new acetate-butyrate safety base.

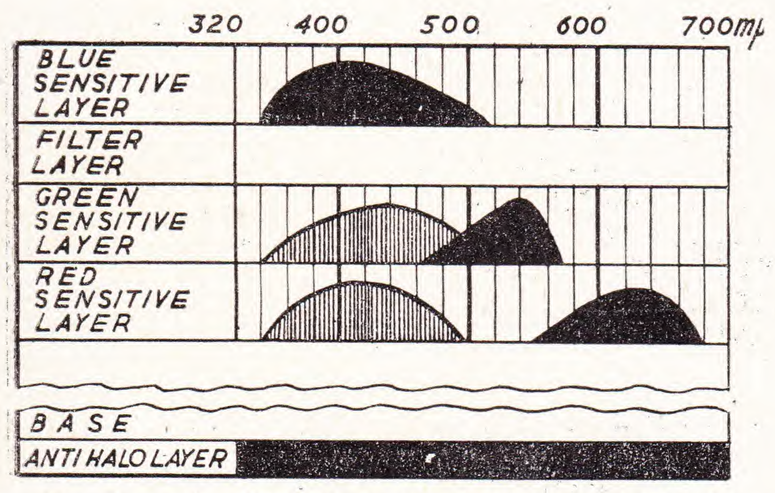
There is an anti-stress coating on the top layer of the emulsions and an anti-halo backing on the back of the base. The top emulsion layer is sensitive to blue only and contains a non-diffusing yellow colour former.

Then follows a yellow filter layer of colloidal silver in gelatine.

The next layer is sensitive to blue and green; the majority of blue, however, being eliminated by the yellow filter above, leaves the layer sensitive to green only and this layer has a non-diffusing magenta colour former.

The bottom layer again is sensitive to blue and red with the blue eliminated as before by the yellow filter and containing a non-diffusing blue-green colour former.

NEGATIVE CONSTRUCTION



The heavily shaded areas represent the light recorded in each layer. The lighter areas on the two lower layers represent areas to which they are also sensitive, but which are eliminated by the yellow filter

The above diagram gives a brief description of the construction of the film and the way in which the spectrum is divided amongst the three layers with resulting dye images (after development) which are complementary to the colours to which the layers are sensitive.

When printing from the above, the Gevacolor positive (which contains the same layers of emulsion and colour formers, but with a steeper cut-off) will then reproduce the original colours.

The speed of Gevacolor negative is 26° Scheiner or Weston 20. It is advisable, however, always to have a fully exposed negative since it is necessary to obtain a reasonable density image on all three layers and in this way quite satisfactory prints can be obtained even if the negative is over-exposed as much as six times, but at this point and beyond it the density of the top layer becomes too heavy to penetrate to the bottom two layers during printing.

For calculating exposure when using filters it is advisable to err on the right side and give ample exposure.

Colour Temperature

The sensitivity of the three layers is balanced to a definite source of light. If that light source does not correspond it can be rectified by the use of colour temperature correction filters.

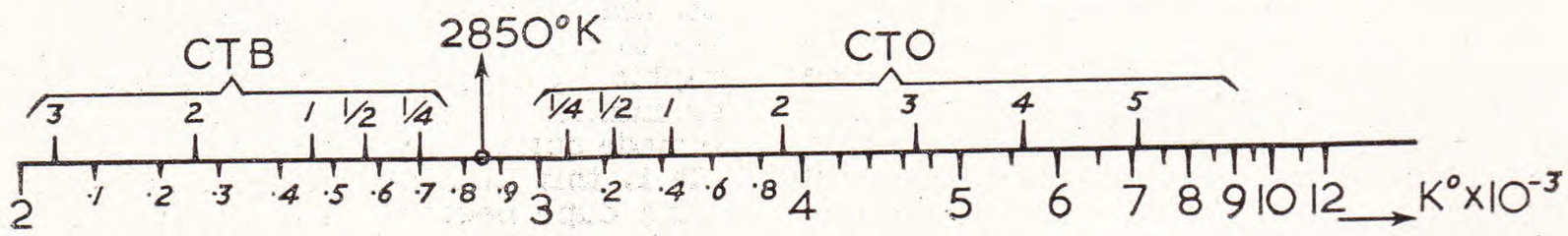
Quality of light is conveniently described by its colour temperature expressed in degrees Kelvin (= degrees Centigrade + 273).

The colour temperature of the actual light source can be corrected by means of special Gevaert CT camera filters; these are made in two types. *Orange*, for reducing the colour temperature; and *blue*, for increasing the colour temperature; and are explained in the following diagram :—

Orange Filters—							
CTO filter ...	¼	½	1	2	3	4	5
Filter factor ...	1.0	1.1	1.2	1.3	1.5	1.7	1.9
Stop increase...	0	0	¼	¼	½	¾	¾
Blue Filters—							
CTB filter		¼	½	1	2	3	4
Filter factor		1.25	1.5	2	3	4	5
Stop increase ...		⅓	⅔	1	1⅔	2	2⅓

Gevacolor negative is balanced for 2,850° Kelvin. The advantage in balancing the film for the lowest colour temperature experienced in practice is because CTO filters do not require as much increase in exposure as do the CTB filters.

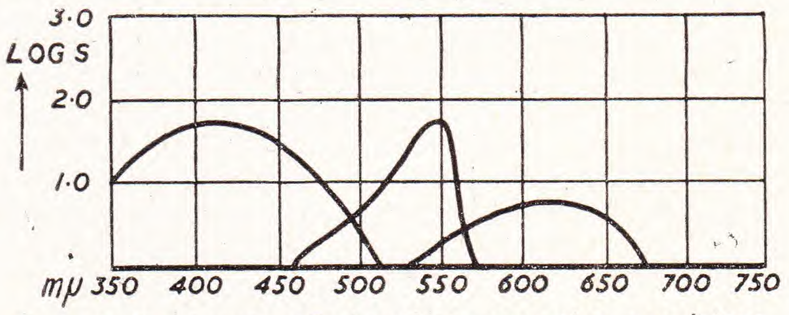
The following diagram gives practical illustrations on the method of using CT filters :



Colour Temperature Scale : *The lower scale represents the colour temperature of the light source. The figures above the scale indicate the CTO or CTB filters necessary to balance the colour temperature to that of Gevacolor negative, which is 2850° K*

Negative Film

(*a*) *Sensitisation.*—In order to register all colours it is necessary for the film to have a sensitivity that is continuous throughout the visible region of the spectrum. The three layers must, therefore, overlap in their respective regions of sensitivity, as shown :

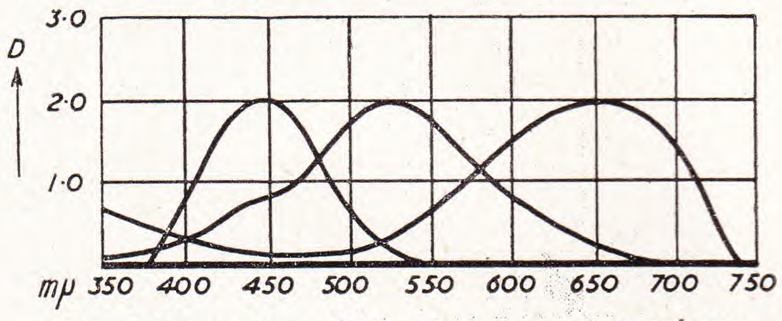


Sensitivity curves of the three negative emulsions

(*b*) *Sensitometric Characteristics.*—Whereas with black and white it is a universal custom to balance the gamma of the negative to that of the positive, with colour this is almost impossible.

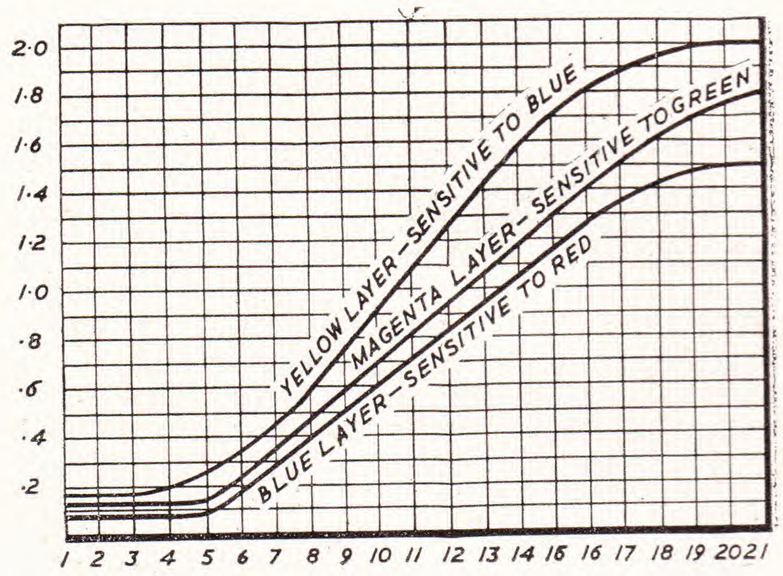
In practice, it is necessary to consider not only the "over all gamma" but also the sensitisers and characteristics of the colour couplers of both negative and positive; each combination of colour coupler and sensitiser in each layer stipulates its own requirements from the point of view of colour rendering. The necessity of producing an independent grey scale in both negative and positive does not therefore apply. The positive only must be capable of reproducing greys throughout the scale from white to black.

Gevacolor negative upon development gives the three following absorption curves in the respective layers :



Absorption curves of the three negative colours

and the sensitometric curves are as follows :



Gamma curves of the negative

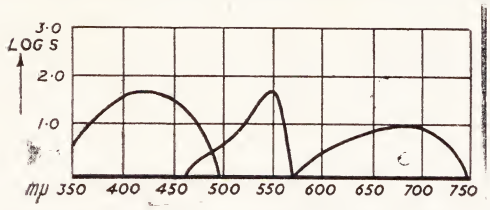
The negative after development has a brownish hue which is eventually compensated in the positive.

Positive film.—The structure of the positive film is similar to that of the negative.

Sensitisation.—In this case the positive requirements are totally different from those in the negative. It is necessary to record not only all the imaginable colours of the spectrum, but more especially to be able to obtain them through combinations of the three colours used in the negative.

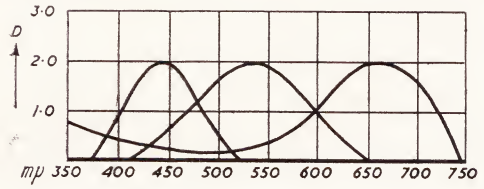
Therefore the three spectral areas must be precisely balanced in the positive to the respective maximums of the three colours of the negative. These always contain, besides their "peak absorption," some secondary absorptions which are detrimental to the colour result.

That these secondary absorptions may have as little influence as possible on the print, the three zones of sensitivity in the positive must be well separated from each other and have as narrow cut as possible.



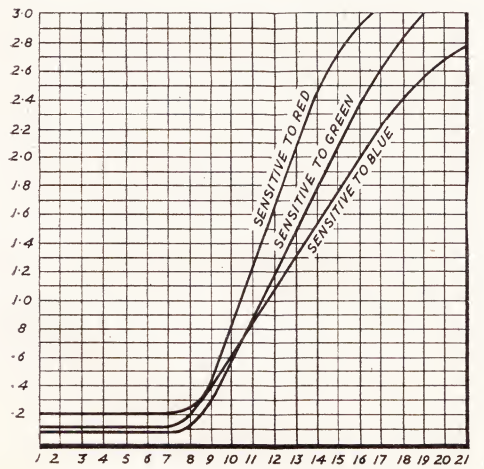
Sensitivity curves of the three positive emulsions

The three colours which are formed during colour development must allow all colours to be reproduced; the three colours must, therefore, cover the whole of the visible spectrum.



Absorption curves of the three positive colours

The three sensitometric curves of the positive, however, must be such that the print can reproduce greys from white to black. Since the negative is brownish the positive must be blueish in order that these greys will be correctly reproduced by the three visually equal "over all gammas."



Gamma curves of the positive

It is impossible to manufacture a negative and a positive of such a nature that an automatically correct copy results in every case for two very obvious reasons :

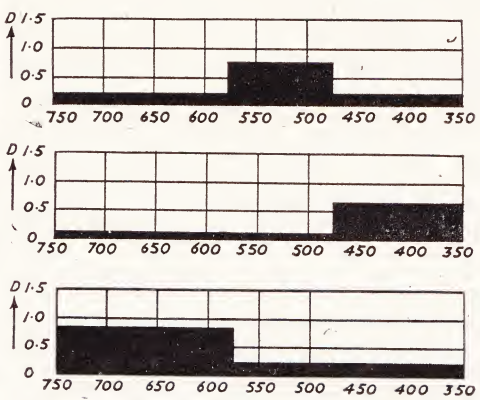
i. The wrong colour correction may be made in the camera but in any case correction can only be approximate.

ii. In manufacture successive coatings necessarily possess slight variations in the relative sensitivities, and, furthermore, age and storage conditions will cause slight fluctuations in the three layers.

Grading filters of the three different colours are designed to rectify during printing such errors as may arise from the above and thus correct the colour balance.

Grading filters are made in each of three colours (yellow, magenta and cyan) in twenty different densities numbered from 5 to 100.

The colours of these filters have been selected in such a way that each one (of greater or lesser density) controls one emulsion layer in



Demonstrating the function of complementary colour grading filters and the neutral density effect of cyan and magenta on the other layers

relation to the others, as indicated above. The exposure for the other two layers will be slightly affected but their relative colour sensitivity remains unchanged and the colour correction is, therefore, made in the one layer only.

This parasitic effect on the other two layers is due to the inevitable grey content of the dyes from which the filters are made, but has a minimum effect on the yellow and a maximum on the cyan. In practice there is a general diminution of sensitivity or speed which must be compensated by an increase in the printing exposure.

POSITIVE CORRECTION

Predominant Colour.	Correction. Filters to be used to Decrease the Dominant Colour.	Correction. Filters to be used to Increase the Dominant Colour.
Yellow	Yellow	Magenta + Cyan = Blue
Magenta	Magenta	Yellow + Cyan = Green
Cyan	Cyan	Yellow + Magenta = Red
Red	Yellow + Magenta	Cyan
Green	Yellow + Cyan	Magenta
Blue	Magenta + Cyan	Yellow

Processing.—The coloured images in either Gevacolor negative or positive are produced from the chemical reaction which results from the silver development of the emulsion layers. Diethyl-paraphenylene-diamine, the developing agent which is used for colour development, is of a special nature and during this operation the silver bromide is reduced to silver and in doing so the developer itself becomes oxidised.

The products of this oxidisation, which in an ordinary developer are neutralised by an ample addition of sodium sulphite, are in this case, due to the very small quantity of sulphite present, used to react with the colour formers. This creates separate colour images in each layer.

The success of a three-layer emulsion is dependent upon the colour formers which will not diffuse from one layer to another and, therefore, the colour formers which have been selected are of the non-diffusable type.

The sensitivity of the three emulsions to the spectrum is divided more or less equally between the three emulsions and the colour former used is the one that will, upon colour development, give a colour which is complementary to that for which the particular layer has been sensitised. In other words, the blue sensitive layer has a yellow colour former as described earlier.

Processing can be carried out on the normal type of automatic processing machine, but more tanks are required than for black and white, and, furthermore, it is essential to have spray development and spray washing. The various baths can be replenished in the normal way with the exception of the bleacher, where it is advisable to discard the bath after exhaustion and renew it.

The processing of either negative or positive is practically identical, but for development the positive requires a higher percentage of potassium bromide than is required for negative, otherwise the formulæ are identical.

Space will not allow for further details of processing, but the following table gives the various baths and time required for each.

(1) Colour Development.	Negative, 7½ mins.	Positive 10 mins.
(2) Stop Clearing Bath, 3 mins.		
(3) Hardening Bath, 5 mins.		
(4) Washing, 15 mins.		
(5) Bleaching, 8 mins.		
(6) Rinsing, 5 mins.		
(7) Fixing, 5 mins.		
(8) Rinsing, 2 mins.		
(9) Colour Stabiliser, 5 mins.		
(10) Washing, 15 mins.		
Totals :	Negative, 70½ mins.	Positive, 73 mins.

The above times are exclusive of drying which by virtue of the fact that three layers are involved usually requires a little longer time than for black and white. It is found that the humidity during drying is important in relation to the temperature.

Sound Track.—When printing the sound track in the ordinary way from a separate sound negative the above sequence of processing baths will result in a dye track, but as the majority of sound projectors are only equipped with photo-electric cells which are sensitive to a silver track, steps have to be taken to produce a silver track on Gevacolor positive and prevent the silver image from being bleached.

This is effected by first using a weak bleaching bath which will remove the yellow filter and any other collodial silver present, and then apply a bleaching paste to the picture area to complete its bleaching, leaving the silver track unaffected. This bleaching paste is then removed and the same sequence of processing as above can be followed. The sound track will contain some dye as well, but this is not detrimental to the sound.

Track Image Formation

When printing the sound track it is necessary that the track image should only be formed in one layer and this is done by printing through an appropriate blue filter when the sound track will be in the top layer only and the track has a yellowish-brown tint coupled with silver.

Advantages of Gevacolor.—The very obvious advantage to producers in using Gevacolor is that no extra equipment is required and the whole procedure of camera work and laboratory processing follow exactly the same procedure as is common practice today with black and white productions. Since, however, colour temperature enters into the question it is advisable to have a suitable colour temperature meter. Furthermore, to obtain the best results, the nearer the colour temperature is matched by correction filters to that of the film, and the nearer the exposure is correctly calculated the best print results will be obtained.

It is a further advantage of Gevacolor that errors can be adjusted in printing.

During the present stage of evolution, the duplicating of Gevacolor has not been finally mastered and it is, therefore, not yet suitable for the type of production which calls for this, and its usefulness is more applicable to short films of the educational or documentary variety where the number of prints is not more than can be made from one negative, or, for instance, in cartoon work where it is not difficult to produce more than one original negative.

The cost of 35-mm. negative is 9d. per foot and of the 35-mm. positive 5d. per foot, to which, of course, must be added processing charges obtainable from the laboratories concerned. In the very near future both negative and positive will only be available on the new Gevaert Aceto-butyrate safety base, but for the time being it is being supplied on the normal nitrate base.

16-mm. Gevacolor positive is also available and the cost on safety base is 3.35d. per foot.

CHROMART

by HANS von FRAUNHOFER

Company Director

The Chromart system of colour photography is based on the chromogenic development of negative and positive materials, the colours being formed by subtractive synthesis. It is characterised by high sensitivity, simplicity of operation and consistency of results

TWO general types of processes are available in the Chromart system, a three-colour negative film and positive materials, known as Chromart-Tricolor, and a two-colour negative film using three-layer positive materials, known as Chromart-Simplex. Prints made by this latter process are available on both film and paper.

An exhibition of Chromart-Simplex colour prints and enlargements, made from negatives supplied by British professional photographers will take place in the wholesale departments of Johnsons, of Hendon, at the London, Manchester and Glasgow branches during the ing month of April.

All Chromart materials are made by Gevaert of Belgium and are, therefore, marketed under the label GEVAERT-CHROMART.

Simplex Process

The Simplex process makes use of monopack negative and positive materials in which non-diffusing Fischer-type colour-forming agents are contained within the emulsion layers of both negative and positive materials. The constitution of the negative materials is the following.

Blue and green sensitive layer of emulsion containing a CYAN dye component.

Colloidal YELLOW filter layer.

Red and blue sensitive layer of emulsion—with a gap in green—containing a MAGENTA dye component.

CELLULOID BASE.—Colloidal Anti-Halo backing.

The top layer records the green and blue components of the subject while the lower layer records only the red component. The colloidal yellow filter layer is provided between the two emulsions to screen off blue light from the lower layer.

In addition to silver halide, the top layer carries a blue-green (cyan) dye component and this, on development, produces a cyan image along with the silver image and in amount directly proportional to it. Such process is known as chromogenic development and is a well-known technique in systems of this sort.

In similar manner the lower layer contains a magenta dye component which, on development produces both a magenta and a silver halide image. Since the silver image plays no further part in the process it is removed completely by bleaching to leave only a dye image in each layer.

The colloidal yellow filter layer is also removed during the processing operations by bleaching.

The overall result of this arrangement is that we are left with a negative in colour in which the blue and green components of the original subject or scene to be photographed are recorded as a clear cyan image in the uppermost layer of the monopack, while the red component is recorded as a clear magenta image in the lower. The two layers are separated only by an extremely thin coating of the clear gelatin of the bleached-out yellow filter layer, thus assuring black and white definition.

It will be noted that the arrangement of the colours in the layers of the negative is different from that normally employed in materials of this type in that the colours are not the complementaries of those recorded by the layers. This is done deliberately as it is found to give certain marked advantages over the conventional system in providing readier separation of the primaries and a greater ease of handling.

The positive material on which the colour negative is printed takes the form of an integral tripack of which the two upper layers are red sensitive, while the third or bottom layer is sensitive to blue green, thus:

Red and blue sensitive emulsion layer containing a yellow dye component.

Red and blue sensitive emulsion layer containing a magenta dye component.

Green and blue sensitive layer of emulsion containing a cyan dye component.

CELLULOID or WATER-PROOF PAPER BASE.

As in the processing of the negative material the silver is bleached out in the processing of the positive to leave only images in clear colours.

Printing of the positive material is carried out through a deep yellow filter, such as the Wratten K-3 or Ilford's No. 111, and this effectively screens off the blue light that is transmitted by the negative. The cyan-coloured layer of the negative is thereby reproduced as cyan in the bottom layer of the positive, while the magenta-coloured layer of the negative is reproduced as both yellow and magenta in the upper two layers of the positive.

The result of this procedure is to provide for subtractive reproduction of at least two of the primaries—red and green—since the amount of yellow in the uppermost layer can be controlled to some extent by suitable balance of emulsion characteristics as well as in printing.

The nearest approach to pure blue, however, is that given by the cyan colour in the bottom layer of the positive print. In this respect, therefore, the process can perhaps be said to be more than a straight two-colour result but not quite the equal of a full three-colour process.

Speed of Material

The effective speed of the negative material is of quite a high order and is rated at 27 deg. Scheiner, or Weston 20. It is balanced to light of colour temperature about 3,200 deg. Kelvin, the level at which most of the larger incandescent tungsten studio lighting units normally operate.

For use with lighting which departs seriously from this level, a range of correction filters are provided. Other filters can be used for the same purpose, and for daylight or white-arc, for example, a Wratten 85-B or a Harrison C-3 filter is suitable.

The important point to remember, of course, is not to mix lights of colour temperature which vary by more than 100 deg. K, as unpleasant colour casts or shadows will be introduced.

The speed of the positive material is much less than that of the negative, but it is sufficiently high to allow straightforward printing on conventional motion-picture film printing machines. Exposure of the positive film is made (through the yellow filter, as already explained) to a light source of colour temperature about 3,000 deg. K.

Processing of both negatives and positives follows along the usual lines for chromogenic development and is perfectly straightforward in operation. Development takes place in a single bath and is complete in 10 minutes at 66 deg. F (up to 12 minutes for the positive stock). Control of this temperature is important and should not be varied by more than 0.5 deg. F either way.

The Chromart-Simplex type kine-materials require a ten-tank processing machine. The development is followed by a rinse in plain water and acid stop, both of one minute's duration, after which the film receives a prolonged washing of up to 30 minutes to remove completely all the development oxidation products. The next stage is to bleach out the silver images (7 minutes) and after this a wash (7 minutes). Fix in hypo (8 minutes), and a further wash (10 minutes), dye fixing (6 minutes), and final washing of 7 minutes. The overall time for processing a film, without drying, is 87 minutes.

Release Prints

Before the negative can be printed it must be graded or "timed," not only for variations in overall light transmission—*i.e.*, density—but for possible adjustments from scene to scene of dominant hue as well. Such adjustments may be made by means of a series of cyan and magenta correction filters, but may not be necessary in negatives exposed to light of a uniform colour temperature.

Where the negative is to be printed on more than one type of printing machine, the use of compensating filters may be necessary to correct the balance of colour temperature of the light source from one machine to another, but this compensation, when once made, should not normally require any further attention other than that involved in making a periodic check. This is a particularly important point when world-wide release printing has to be considered, and many film-laboratories, located in various parts of the globe, may be involved.

A word of warning should perhaps be added here.

Whatever type of printing machine be used for printing the Chromart-Simplex positive film, the light change system must not be one of those that are operated by resistance control of the lamp current, since this would introduce undesirable changes in colour temperature of the printing light and thus seriously upset the colour balance.

Machines, such as the Bell and Howell and the Debrie "Matipo," are suitable for the purpose, the latter more so since it can be provided with an automatic light change system whereby filters can be combined with circular apertures punched in a paper band and moved step-wise past the printing gate.

Studio Work

The relatively high speed of the Simplex negative film means that shooting can be carried out in a wide range of lighting conditions, both interior and exterior, and thus provides for greater flexibility than is obtained with most of the other current motion picture colour processes.

The higher speed of the Chromart-Simplex shows with particular advantage in studio work where the operating level of light intensity can be set at about 300 foot-candles as compared with the level of 750-800 foot-candles required as a minimum by three-strip camera and reversal type processes.

Such an advantage can mean quite a lot of studio lighting economy, plus the added facility to shoot at smaller apertures to gain an increased depth of field.

A most important advantage of Chromart-Simplex is in the fact that 16-mm. reduction

Continued on page 9

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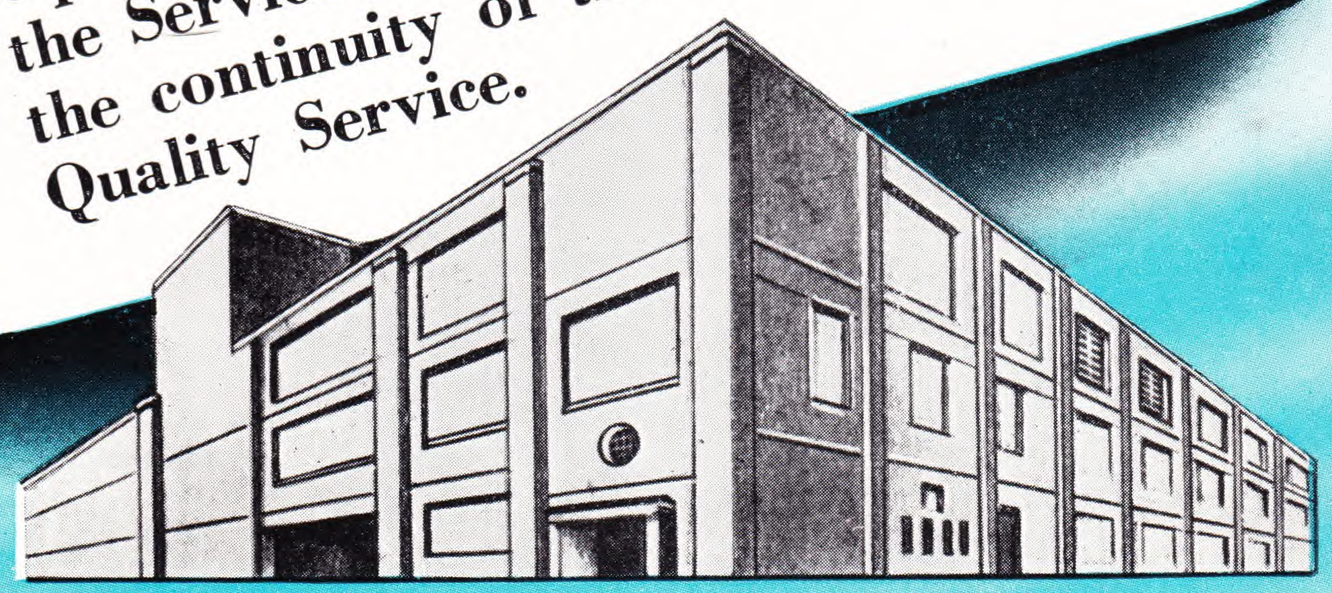

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CHROMART—continued

prints can be made from a 35-mm. negative with practically normal black-and-white simplicity. Another advantage, especially important to users of bipack processes, that their negatives can be printed on to 35-mm. and 16-mm. Chromart materials for world wide release printing purposes.

Sound Qualities

The sound-track printed on to a Chromart-Simplex positive film may be processed to a dye image or, if required, it may be converted to silver sulphide during processing in order to improve its overall response. The sulphide track can be reproduced on any standard equipment to give results that compare well with the silver track.

The fact that the Chromart-Simplex process is based on a single film technique, which allows the negative material to be used in any standard camera without special preparations or modifications, will do much to ease the problem of producers who do not have, or do not wish to go to the trouble and expense of providing two- or three-film cameras.

Operation of the camera is as simple as with black-and-white negative film and no particular problem is introduced by reason of its colour sensitivity. Loading and threading of the film is carried out exactly as with black-and-white negative film and the emulsion side in the gate should face the lens.

Supplies of negative material and positive stock in both 35-mm. and 16-mm. size are available in this country from Anglo-American Colour Photographic Industries, London, and in other parts of the world through Chromart Film Industries, New York City, whose sales offices and processing facilities are now being organised on a world-wide scale.

In this country Denham Laboratories, Middlesex, is equipped to process and print approximately 40,000 feet of 35-mm. Chromart-Simplex film and approximately 20,000 feet of 16-mm. materials daily.

Colour Stills

The Chromart-Simplex process is available for still photographic purposes in a wide range of sizes. The negative material is now offered in 35-mm. film for Leica and Contax users, and in roll-film form as No. 120 and 620 spools. It is also obtainable in various cut-films up to half-plate size.

The colour negatives obtained on these films can be printed on to special paper material either by contact or as enlargements up to 15 in. by 12 in. overall. The make-up of the negative and positive materials used for this purpose is the same as that already described for the Simplex-type motion picture process and its handling follows along the same lines.

Processing and printing is at present carried out by Anglo-American Colour Photographic Industries in their London laboratories and a rapid service is maintained from there. Arrangements have just been made with Johnsons of Hendon, London, for distribution of negative processing kits to professional photographers to enable them to process their own Chromart-Simplex negatives.

In use, the negative material may be handled with the same confidence as any normal negative film of equivalent speed. Special care should be observed in loading and unloading the camera as accidental fog will give rise to coloured streaks or patches. Complete darkness is to be preferred for these operations.

Exposure estimation should be accurate to within one stop, and for best results one-half stop variation on either side of the optimum is all that should be tolerated. Under-exposure results in loss of saturation of the colours, while over-exposure interferes with the successful separation of the colours in the negative.

For motion picture purposes it is very desirable that any colour process offered to film producers should be capable of giving rise to dupe-negatives of a satisfactorily high order of quality. There are two good reasons for this.

First, normal practice of film production requires the insertion into the picture of fades, dissolves, wipes and other similar effects than can only reasonably be made on the optical printer. The alternative suggestion to do all this work in the camera is largely untenable.

Secondly, there are few producers who would willingly face the risk of having to work on original camera material only, with no possibility—other than that of reshooting, of replacing or repairing damaged sections of the negative, or of providing a master copy of the finished film for release printing in the world markets.

It is just on this question of duping that so many of the known colour processes fall down.

While it is possible, theoretically speaking, to overcome the limitations of some of these processes by means of special techniques, notably by masking—integral or otherwise—in practice it is, however, distinctly difficult to produce a uniformly satisfactory result that is both speedy enough, sufficiently workable by any normal film-laboratory, and economically attractive for motion picture purposes.

The Chromart-Tricolor process has been devised with this particular requirement in mind, and for the first time a system of providing colour dupes of excellent quality is offered by this process. The same material is available as camera negative film and provides a colour record in three subtractive primaries.

The precise make-up and handling of the film is the subject of various British and foreign patents still pending and, for this reason, cannot yet be disclosed in detail. It may be said, however, that it is in the nature of a three-layer monopack film constituted as follows :

High-speed blue sensitive layer of emulsion.

Yellow-dyed medium to screen off the blue light and to protect the lower layers from chemical action to which the top layer is selectively subjected.

Red sensitive layer of emulsion—with a gap in green—which contains a magenta dye component.

High-speed green sensitive layer of emulsion containing a cyan dye component.

Celluloid base.

Colloidal anti-halo backing.

By this arrangement, the colours of the subject or scene to be photographed are recorded in the three emulsion layers of the negative as follows : In the top layer is the blue component, developed to a normal black and white silver image. In the intermediate layer is the red component, developed chromogenically to a clear magenta image, while the bottom layer is the green component developed similarly to a clear cyan image.

The method of separating these three individual colour records cannot yet be divulged, but I can assure you that it will be very rapid, safe and an effective means of making dupe-negatives for release-printing on any standard three-colour positive material. Any professional laboratory will be able to work the process without any of the cumbersome and difficult stripping and transferring operations being involved in the procedure.

This process should go a long way towards simplifying world-wide production and distribution of release prints and, to this end, the Chromart-Tricolor process will be offered as a camera negative material to be used in conjunction with any of the three-colour printing materials which are, at the present time, handicapped by the lack of such negative material.

An interesting point about this new Chromart-Tricolor material is the fact that it can be used—with equal facility—in making three-colour intermediate dupes since other three-colour camera materials can be successfully copied directly on to it. If the original material be processed by reversal, *e.g.*, Anscocolor, and so on, a single printing stage is all that is required and the resulting negative can be printed for release on any three-colour material available for this purpose.

I confidently believe that in producing Chromart-Tricolor materials we have successfully bridged the gap that has hitherto existed between the show print and the final print in full colour.

Incidentally, this same type of camera material will also be available for still photography in various roll-film and flat-film sizes for colour printing by any of the known printing methods, such as the Dye-Transfer, Carbro or by Chromart's own printing procedure and materials.

THE FOCUS ON COLOUR—Continued from page 3

colour systems and am glad to say that slowly but surely trade in general is showing an interest in this type of product.

"At the present moment the only type of three-colour film that we are handling is Gevacolor which is obtainable without great difficulty from a currency point of view. Ansco Color, being an American product, is completely out of the question owing to the scarcity of dollars, and I do not imagine any work will be carried out on this until that unhappy situation is clarified.

"You can well imagine that there are plenty of snags and troubles encountered in getting processing facilities made available, and also to arrive at a consistency of product where of necessity the original material is a varying factor.

"It has become more and more apparent that the whole thing hinges on the most careful control from a chemical point of view and the only hope of success is to pay the greatest attention to this particular sphere of activity. Indeed, the chemist is becoming the king-pin of our manipulations not only from the point of view of consistency of output but from a commercial point of view as the solutions required for this type of processing are as yet extremely expensive.

"I think it is a fortunate thing that circumstances have forced us to go into this thing slowly, for at every stage we are learning more and more and by the time the raw film of this nature will be available in large quantities we at Denham should have this problem completely under control. When going into feature production it is essential to remember that not only is straightforward processing required, but all the other manipulations that one expects to get in black and white—trick optical printing, duplicating, and so on, must be available."

The Olympic Kinematograph laboratory at North Acton has been building a completely new and fully equipped modern laboratory and is nearly ready to operate.

In the design and equipment of this laboratory, provisions are made to process nearly any reasonable type of colour requirements.

W. G. Murray, of George Humphries, says that at the moment the laboratory is not engaged in any form of colour processing. The entry into the field will not be possible until the proposed considerable extension of the premises has been completed.

E. J. van Baars, technical manager of Kay, says that the laboratory has not yet reached the stage of starting colour processing. C. Winterman, managing director of Brent, points out that the laboratory is limiting its activities to the experimental field.

In preparing for the trade this colour supplement, the KINE. is providing yet another service which we hope will help to expand the use of colour photography in British studios and, indirectly, prove a means of increasing the box-office receipts from British kinemas and world markets.

THE TURNING POINT HAS BEEN REACHED

The first section of the newly built Alfacolor film laboratories at Redhill, Surrey, is now complete.

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ALFACOLOR

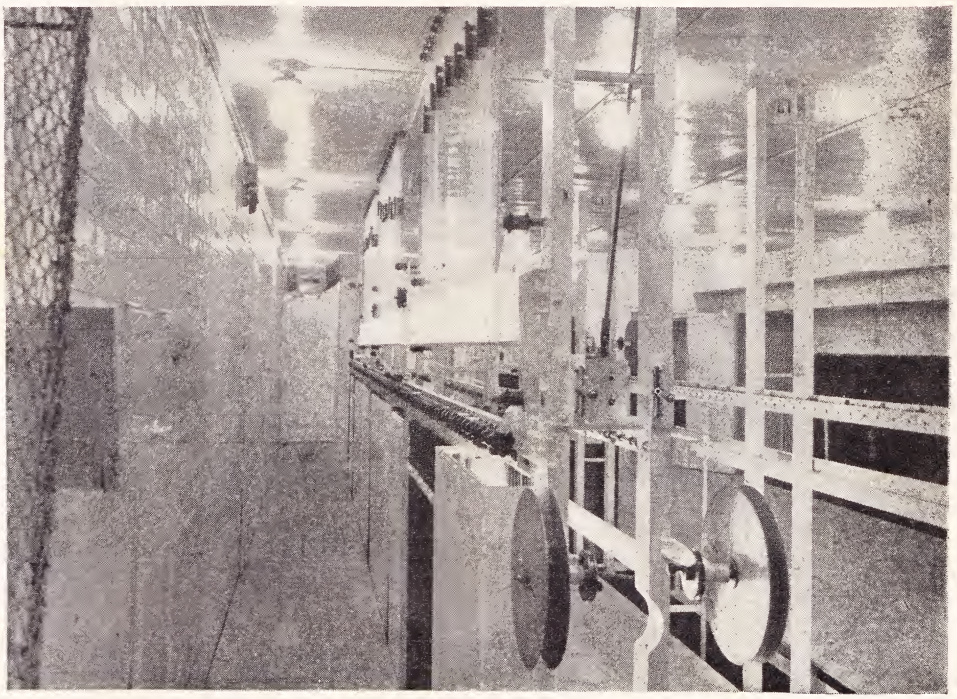
by P. A. HAYMSEN
Managing Director

This system applies the most recent advances in colour development and coupling to two-colour film, using the bipack method. It also partially overcomes the restriction of the two-colour range by splitting the orange printing into its red-yellow factors, results which approach a three-colour effect

THE use of bi-pack stock is a convenient method of producing the two separation negative necessary for a two-colour process, and the Alfacolor system is based on the use of standard bi-pack negatives and double-sided positive prints. While, however, in previous methods employing bi-pack negatives, the positives have been produced by toning, dye-mordanting or similar processes, the colours are introduced in the Alfacolor by means of a process of colour development. This process of colour-development incorporates several new features (Pat. appl.), the most interesting of which is that three separate colour developers are used to obtain three-colour effects by the controlled application of a third colour. This leads to a final result having a softness, transparency and definition which, combined with the pleasing colour rendering, in my opinion, places Alfacolor in a class by itself in the two-colour reproduction.

By virtue of the fact that Alfacolor is a subtractive colour process, the prints are marked by their brilliant whites and clarity of tints. Definition, too, is of a high order, since colour-development introduces no factor likely to cause unsharpness in the image. Thus there are no dyes free to bleed or to wander or stain the transparent parts of the prints.

The process of colour-film production by the Alfacolor system is straight forward and offers no difficulties, neither in shooting the negative nor in processing the film. The bi-pack negative film, which is obtainable in two types—balanced to daylight and tungsten (3,200 deg. K), is exposed under the conditions normally employed for colour shooting.



This is a section of the developing plant (prior to airtight enclosing) of the modern Alfacolor Laboratory at Redhill, Surrey, where the final adjustments are being made. Architect: Towndrow and Ransom

Temperature Meter

It is well known that the quality of colour photography depends to a large degree on the colour temperature of the light source, which determines the choice of the filter. Realising the importance of this matter, Alfa has constructed a colour-temperature meter which is especially adapted to the requirements of the film studio.

The working principle of the Alfacolor temperature meter is that of measuring the blue and red content of a light source. The meter needle is set through a red filter to a definite line or reading on the meter scale, and then the light that is passed by the blue filter is measured. The meter has been designed to have one or more colour temperature ranges and can also be used as an exposure meter.

There are two principal parts of the instrument: (*a*) photo-cell head, which includes the filter holders, and (*b*) meter.

The two units are then mounted on an adjustable stand. The photo-cell head is mounted on the top of the stand in a universal mount, so that the cell can be pointed in the direction of the light source. The whole unit can be raised from approximately 4 ft. 6 in. to 7 ft. 6 in.

In front of the photo-cell is an iris diaphragm which is controlled by a lever projecting through the under-side of the unit. On the top of the unit is a large knob which, when rotated, will change the filters in front of the cell. The positions of the filters are marked on the top surface, and these can also be located by click stops.

The meter is connected to the photo-cell by a jointed twin flex and is mounted on a small arm attached to the lower half of the stand. The 100 micro-amp meter has to be used in a horizontal position and should be handled with great care. There is an automatic switch connected to the lid of the meter housing which, when closed, switches out the meter from the photo-cell. This is to avoid damage when exposed to excess light during transit. The whole instrument is mounted on wheels and is a self-contained unit.

The speed of the positive film is 240 Scheiner and the negative film, 270 Scheiner.

Processing Technique

Processing of the negatives is carried out in standard negative developing machines. The only additional operation here is the removal, by chemical bleaching, of the red dye from the ortho film.

The two bi-pack negatives are printed on to positive film, one on either side, and this operation is most conveniently carried out on a double-headed printing machine which prints both negatives at once.

The exposed positive film is then developed with colour-forming agents.

These colour formers are the result of extensive research work and are synthesised in the Alfa laboratories for this purpose. They have been chosen in such a way that the best possible colour rendering is obtained, and at the same time a perfect sound reproduction. The sound track can be printed with equal facility on the double-sided positive film, using the side which is to be developed with the blue colour former. The characteristics of the image produced with the blue colour former are such that the sound track can be reproduced in any standard projector with little or no loss in volume as compared with the equivalent track in silver. The high definition of the colour image itself ensures a satisfactory response over a wide range of frequencies.

Quick Printing

The colour processing of the positive film can be performed relatively speedily, the colour prints being obtained in no more time than it takes to make black-and-white prints.

Operation of the Alfacolor process will be centred in the new laboratories at Redhill, Surrey, and production has just started with a capacity of 250,000 feet per week. This plant comprises a number of new features and enables a speedy colour development of film on a very economic base. Alfacolor films can, therefore, be offered at advantageous prices.

A further very important feature of the process is the facility with which duplicate negatives can be obtained in the usual way from the two bi-pack negatives.

The work of the Alfacolor laboratories will not be restricted to the two-colour process in 35-mm. and 16-mm., but includes the processing of all types of colour film based on colour development (Agfacolor, Gevacolor, and so on).

Amongst these, an Alfacolor three-colour process is in course of development, which has a number of novel features and offers advantages over existing three-colour processes in that duplicate negatives can be readily obtained, and the grading of the colour copy is substantially simplified. The sound track has the same characteristics as with the two-colour film, and does not necessitate any special treatment in processing.

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KODACHROME

by I. D. WRATTEN
Deputy Manager—Motion Picture Film Division

This is a three-colour reversal type process in which the various colour sensitive layers are coated on to a single support. A new negative is now in the experimental stage, so far as processing is concerned, but is not expected to be in use here this year

RECENTLY, the Eastman Kodak company has announced the introduction of new 35-mm. colour negative and colour print films. These are still in an early stage of development from a commercial standpoint, but several laboratories in America are making arrangements to handle the processing of the films. However, it is unlikely they will be seen in Britain during this year.

Both the negative and print films are, like Kodachrome, composed of three separate emulsion layers on one side of the film. Each emulsion layer contains appropriate colour formers which, upon development, produce the dye colour images. The negative film yields an image in colours complementary to those of the subject, and this is used to make the positive on the colour print material.

A special system of automatic colour masking in the negative film avoids colour desaturation effects in the print.

Kodachrome was introduced in 1935 primarily to provide a satisfactory colour material for use by the amateur and for this purpose it is the best system so far evolved. In recent years, however, this film has been utilised extensively by professional workers specialising in the 16-mm. field. Its use by professionals has stimulated the study of the material and processing methods with the object of reaching the manufacturing and processing standards required by the more critical professional user.

Control of the complex processing procedure is now so complete that the variations normally encountered, although perceptible to the most critical observer, are small enough for the result to be generally acceptable to the commercial user.

Colour Sensitivity

Kodachrome film is a three-colour reversal type in which the various colour sensitive layers are coated onto a single support. The top layer is sensitive to blue light only, the middle layer to blue and green, and the bottom layer to red and blue. Between the top and middle layers is a yellow filter layer, the purpose of which is to absorb the blue light before it can reach the green and red sensitive components. Thus, the top layer records only the blue component of the incident light; the middle layer the green component, and the bottom layer the red component.

Due to its character, the exposure of Kodachrome film demands that attention should be paid to several important points.

First, Kodachrome, unlike the human eye, does not adjust its sensitivity to suit the quality of the "white" light (that is, daylight or tungsten) being used. For this reason the correct type of film (Daylight or Type "A") should be employed, or filters should be used to obtain the necessary compensation.

Secondly, Kodachrome has rather less latitude than black and white negative materials, and therefore the exposure must be carefully controlled to within half a stop. For similar reasons, the use of subjects with a high contrast range should be avoided—contrast should be achieved, as far as possible, by colour contrast rather than brightness contrast.

Processing, at the present time, is undertaken only by the manufacturer, and procedure is essentially as follows:—

The Kodachrome film is first developed to a negative. After washing, the film is exposed through the base to red light. This exposure affects only the lowest (red sensitive) layer. The film is then developed in a developer containing a cyan (blue-green) colour coupler. At this stage the film contains cyan dye in the lowest layer, where there has been no effect from the original exposure.

The film is washed and then exposed through the top layer to blue light—this affects only the blue sensitive layer, where there had previously been no exposure. The film is again developed in a developer containing a yellow colour coupler. This forms yellow dye in the top layer.

After this it is passed through a fogging developer containing magenta colour coupler which form a magenta coloured dye in the middle (green sensitive) layer, where there had previously been no development.

Finally, the film is bleached to remove all silver, washed and dried. The result is an image reproducing the colours and tones of the subject.

From this brief description it will be seen that the process is complex, requiring treatment of the film with four different developers. For this reason it is essential for the process to be controlled within close limits both chemically and physically.

Copying

Apart from its use for making original films, the Kodachrome process may be employed to produce copies of originals. The original master copy is printed on to duplicating Kodachrome film in a suitable film printer and developed in exactly the same way as the original. The printer is arranged to accommodate a number of filters, the purpose of which is usually to compensate for the colour balance variations of the duplicating film, although they may be used in certain circumstances to correct colour balance errors in the master copy.

With due care, 40 or more duplicates may be made from a single original. If significantly more than 40 copies are required, then it is customary for the first two copies to be set aside for use as secondary master copies. The duplicates obtained from secondary masters are not of such a high quality as the duplicates made from the original itself, and for this reason such an arrangement should be avoided if possible.

Sound Track

The sound track on Kodachrome film is composed of silver sulphide, and this gives a satisfactory volume level with the photocells normally fitted in sound projectors.

Sound tracks may be directly recorded on Kodachrome, but the method is seldom adopted. It is customary to record a normal black-and-white track and print from it on the Kodachrome film. Either variable-area or variable-density tracks are suitable for the purpose.

Since Kodachrome is a reversal process, a positive sound track is required for printing on to the Kodachrome. Increasing use is, therefore, being made of direct positive recording for this purpose, especially by variable area, since the cost of an extra black-and-white print is saved and, at the same time, an improvement in quality is possible due to the avoidance of the additional printing stage with its attendant slight loss in resolution.

Direct positive recording by variable-density is not possible in this country except by the toe method, which has its own shortcomings, because of the difficulty of applying adequate noise reduction. An alternative method, fairly widely adopted, is to record the track on Kodak Super X reversal film, which can provide a very good quality.

A normal variable-density release print is suitable for printing on Kodachrome, but if the track is of the variable-area type it is desirable to have a heavier print than normal if the best results are to be obtained. The achievement of optimum quality depends on various factors which make it impossible to lay down hard and fast figures for the print density, but in general it may be said that a variable-area track should be of density about 0.5 higher than would be employed for release-print purposes.

If a direct positive recording is used, a track density of 1.30 on Kodak Positive Film, Code 1301 or 5301 will be about right.

Whatever sound-recording method is used it should be understood that some loss in volume level is inevitable on a Kodachrome track as compared with a black-and-white track. In practice this is readily compensated by increasing the fader setting on the projector, but, of course, there is some sacrifice in signal:noise ratio.

But No 35-mm.

Kodachrome film is not available in the 35-mm. size for motion-picture purposes. One of the principal reasons for this is the difficulty of providing processing facilities adequate in volume and speed to the needs of the 35-mm. motion-picture film producer.

Where the number of copies required does not justify adoption of some processes, increasing use is being made of Kodachrome for the preparation of 16-mm. prints from 35-mm. colour originals. Several companies in the trade now undertake this work, but in all cases, processing of the film is carried out by Kodak. The reason for this is that no other laboratory has installed the expensive plant needed for the work.

Technicolor Co-operation

Several professional companies have also made use of 16-mm. Kodachrome film as an original from which 35-mm. prints in Technicolor can be obtained by the "blow-up" method, and usually the results have been very satisfactory. The camera film used is normal Kodachrome which is processed by Kodak, but it is advisable for the user to have a clear understanding of the special precautions which are necessary to ensure the best results under the more stringent conditions demanded in a "blow-up" process.

Detailed information on this is given by Technicolor.

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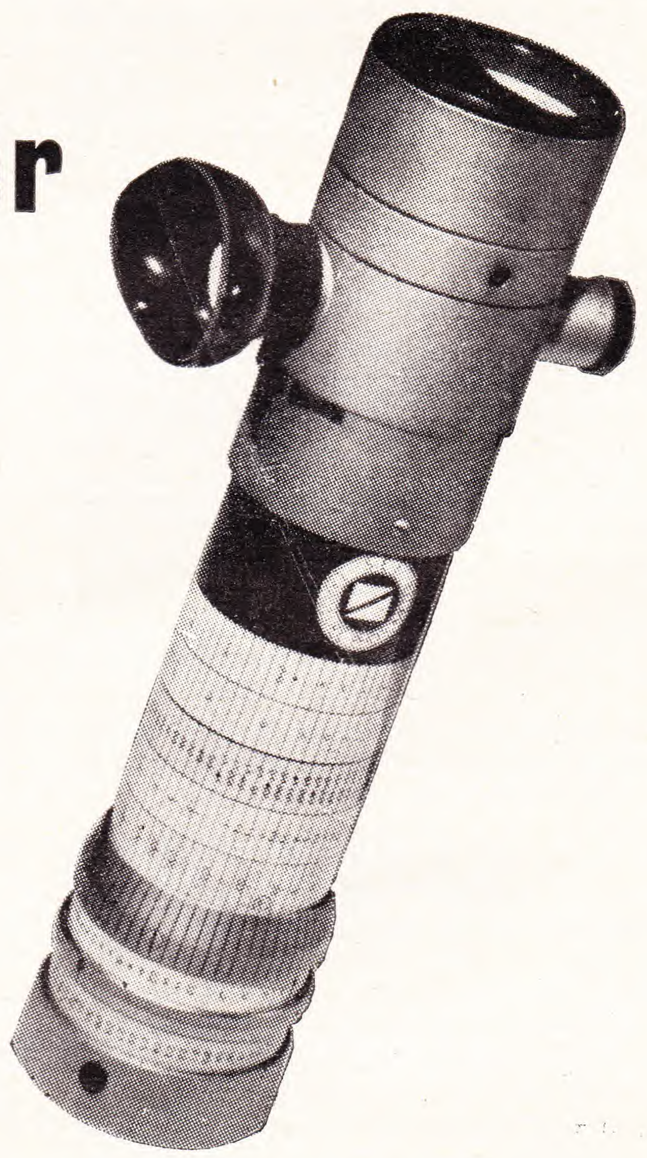

The S.E.I. Exposure Photometer can be seen and demonstrated at the Ilford Trade Showroom, 104 High Holborn, W.C.1

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Says Independent Producer
DERRICK de MARNEY

IN all the welter of information and evidence contained in the Gater and Plant reports; far too little has been said about the position in the industry of the independent producer.

The independent is the back-bone of the industry. He is the one who does most of the experimenting, who tries out new ideas and who stakes his artistic reputation each time he decides to produce a picture.

It does not seem to be sufficiently well realised, however, that he also, in most cases, at the same time is obliged to stake the whole of his available resources. Under the present system, and unless there are radical and rapid changes in the distribution of money available for production, the independent will become the victim of an inevitable economic squeeze and with his departure from the scene will go something that is, perhaps, the last line of defence against the complete "colonisation" of the British film industry by the great American companies with their powerful financial reserves.

It is always as well to try to avoid saying: "I told you so," but it was as long ago as the spring of 1944 that the KINE. printed an article in which the British industry was foreseen as likely to become "a deserted shanty town." Looking round at our studios today, we can happily say that that situation has not yet arrived, but surely the writing is already on the wall.

Financial Security

The answer to our problem, I believe, lies in encouragement of our independent producers to make pictures that are of a sufficiently high quality to challenge the growing supremacy of American product. As in every argument about the industry here nowadays, the encouragement wanted is mainly financial. We do not want the moon, still less do we ask for favouritism, but we do ask for sufficient financial security to allow us to make at least two features each year without having to mortgage our possible income for several years to come.

A steady flow of first-class product from independents could be assured if some arrangement could be made to finance their pre-planning expenses. The pre-planning of a film can be divided into two distinct spheres, namely, first, organisation of finance, second, organisation of the industrial requirements of the film. It is impossible to define whether the first of the above-mentioned requirements should have priority over the second, but commonsense surely shows that without the first, the second requirement would become a dead letter.

It is, therefore, imperative if an independent producing concern is to be allowed to devote the whole of its energy and ingenuity on the preparation of a film from the shooting point of view, all matters relating to the organisation of the necessary finance should be satisfactorily settled prior to the critical period, not only of shooting on the floor but also of pre-production discussions with the key technicians, which are essential if a film is to be produced in a minimum of time with maximum quality.

It is, therefore, suggested that all financial aspects should be successfully settled six weeks prior to the first shooting day. Any delay must have a direct effect on the film itself, for it is impossible to devote the whole of one's energy to creative work when there is the slightest uncertainty as to whether the current week's salaries can be met.

The other aspect is, perhaps, even more important. Industrial pre-planning has, as its main object, the eventual saving of time and money. In the making of a film, it involves *first* the co-operation on the script by the producer, scriptwriters and the director. *second* upon completion of the shooting script, the co-operation of the cameraman, camera operator, art director and editor; *third*, the preparation by the art director in conjunction with the other technicians, of models of the most important sets for the purpose of—

(*a*) Establishment of camera angles;
(*b*) Establishment of those sections of the sets which, for working purposes are to be floated during the making of the film;
(*c*) Advance negotiations for the selection and the ordering of props, set dressings and wardrobe. When these selections are left to the last moment they have always involved increased expenditure;
(*d*) Script rehearsals with main artists. If a director is able to rehearse his cast at least two or three weeks prior to going on the floor he will obtain a much better and more natural performance from each individual artist. Furthermore, it is possible to effect changes which may be considered necessary prior to floor work.

A Wise Investment

To sum up, pre-planning is intended to solve all possible difficulties prior to shooting. It is agreed and recognised by all concerned that when a film is on the floor difficulties arise out of the most unforeseeable circumstances. By careful pre-planning it is possible to minimise these difficulties. It is possible to control mechanics, but the difficulty is to control human nature. Yet if a control of mechanics is achieved half the battle is won and we have gone a long way to bringing in a film at the scheduled time and at the estimated cost. In the final analysis, this is to the advantage of the financiers and therefore whatever monies are wisely spent on pre-planning must not be considered "expense without concrete result," but rather "a wise investment which will bring dividends in the later stage of production."

This pre-planning period costs money possibly to take a round figure, £500, but under the present system the producer cannot touch any borrowed money until he actually starts shooting. He can then, perhaps, recover some of his expenditure, but the odds are that when the picture is complete the producer has spent all the borrowed cash as well as what he, himself, has originally put into the project. It may be 18 months or two years before he sees any appreciable return, for he has precious little priority in the matter of collecting profits.

Not Enough to Live On

This means that the producer can economically produce only one picture every two years. That is not enough to give him a living, nor is it enough to keep the British film industry alive.

What is the answer? Obviously the independent must be given some credit for the cost of this pre-planning. There appears to be no reason why the Film Finance Corporation should not extend its scope slightly to cover loans for this critical period. There would, of course, have to be adequate safeguards, such as regular progress reports, and loans would be available only to producers of proved integrity and ability.

Bound up with this scheme is another point of justice for the independent producer. Everyone else who puts money into a film charges interest. Surely the producer who makes a capital investment in his own picture should be allowed interest on that investment as a charge against the total budget. If this were allowed it would bring him an earlier return for his work and money and would correspondingly lessen his calls upon the Film Finance Corporation.

Such assistance to the producer would go a long way to ensuring a steady flow of British pictures which should be able to meet American product on level terms and render the quota unnecessary.

HEWITTIC RECTIFIER FOR STUDIO LIGHTING

Considerable attention has recently been given to the need for a ripple-free current for studio lights, in order to avoid sound pick-up. A committee of the British Standards Institution is now considering the preparation of a standard.

A rectifier recently supplied by Hewittic to Technicolor has the low ripple factor of 0.1 per cent. Its output is 1,000 amps. and it employs six-phase rectification, with, of course, extensive smoothing.

In construction, it is of a type newly developed, known as the group unit type, in which four bulbs are grouped together in a single cubicle. In order to economise in space the anode arms, instead of being equally spaced around the bulb, are at angles of 45 degrees, so that the four bulbs can be placed almost touching in the cubicle. The speed of the cooling fan is automatically controlled in accordance with the varying load.

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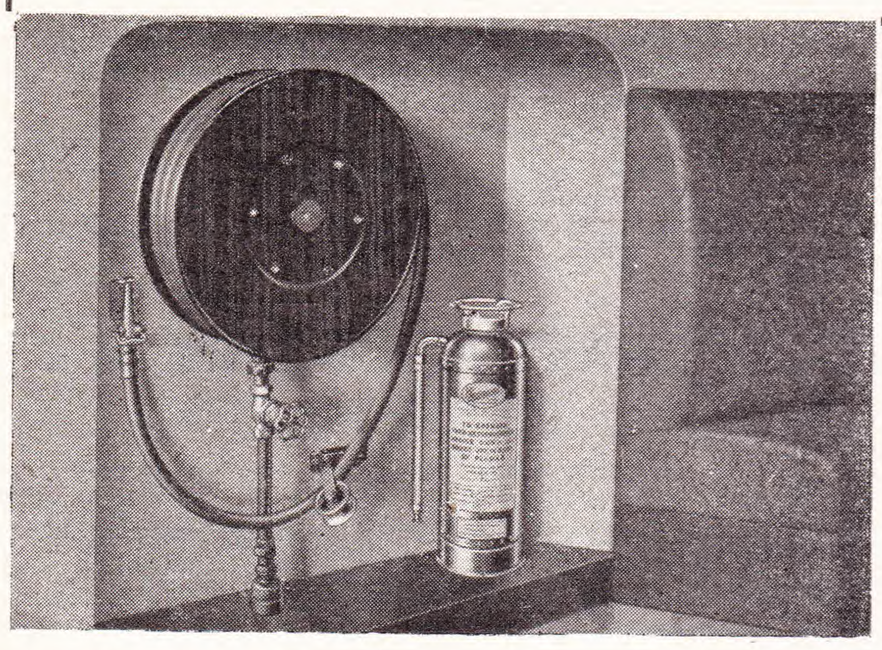

Illustrated above: The Pyrene "Everyway" Hose Reel with Conquest C.1 Extinguisher.

And what greater danger of fire than that existing in Film Studios? Scenery—draperies—wood—paper—paint—upholstery—spirits—electrical plant—and so on . . . freely burning and highly inflammable materials all demanding the most efficient and quick-acting fire protection.

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IT LIGHTENS THE LOAD

The story of a demonstration showing how a "Mole Float" effected a saving of 40 per cent. in current consumption

By R. HOWARD CRICKS, MBKS, FRPS

A NOVEL wiring system for studio lighting which, by eliminating resistance losses, shows an economy of 40 per cent. in current consumption, was demonstrated last month by Mole-Richardson to a party of studio electrical engineers at Sound City, Shepperton; the visit was arranged by the BFPA.

Basically, the system is a development of the normal three-wire system to five-wire working. It enables four rows of arcs to be run in series across 230-volt three-wire mains; the reduction of arc drop from the customary 66 or 70 volts to 57½ volts is made possible by a new carbon, developed by Morganite and known as the Link PSR. The carbon is distinguished from the normal range by the provision of a saw-cut across the end, which can be seen from the back of the lamp.

When the visitors reached Sound City they found the centre of the large silent stage occupied by a double line of 60 MR 170s. C. G. Heys Hallett explained the system, stating that actually 59 of these lamps were connected in accordance with the new system, and the 60th connected in normal fashion, with its grid, across the 115-volt supply; the purpose of this last lamp was to provide a comparison unit, but, in point of fact, nobody was able to distinguish it from any of the others.

In addition, a Duarc and an incandescent unit were connected in the normal manner, to demonstrate that the system does not prevent the use of orthodox circuits.

Greater Stability

In the new system shown in Fig. 2 it will be seen that between the positive and neutral, and between the neutral and the negative, are supplementary lines which, for lack of a better term, have been christened "Mole floats"; these serve exactly the same purpose in the five-wire system as does the neutral in a three-wire system. The system is much superior to normal series running, first, because greater stability is assured, since variations in the arc voltage are averaged out over a number of lamps, and on practical grounds, because of the greater ease of connection and greater flexibility.

Fig. 3 shows the practical connections, which, it will be seen, correspond with the wiring shown in Fig. 1. These particular connections were adopted to permit the use of normal three-way boxes, but a better method would be to use five-way boxes. A still better system, suggested by W. Falconbridge, studio engineer at Sound City, would be to equip a studio with five-way bus-bars.

Under the direction of Mr. Heys Hallett, S. Lewis Johnson, with a couple of assistants, struck the lamps. Two of the lamps—those nearest the camera in Fig. 1, and in Fig 2 shown in black—were of the newly developed self-striking type, and the desirability of this was seen, in that as soon as the carbons in one lamp in row A and one in row D were touched, the self-striking lamps automatically lit.

After the lamps had been running for some time they were knocked off one by one in indiscriminate rotation. Mr. Heys Hallett had previously stated that when the number of lamps burning had been reduced to 11, flicker would become noticeable, but it was actually not until only seven lamps were left alight that, due to unbalance, one began to flicker and went out.

In response to questions Mr. Hallett stated that tests had shown that a lamp burnt in this manner with the new carbons gave 94 per cent. of the light of a lamp burnt in the normal manner. He produced figures of the rigging of a number of actual sets, which agreed in showing an economy in load of 40 per cent. for a given light output.

Charlie Hillyer, studio electrician at Shepperton, recounted how a short while ago he had been compelled to run a temporary overload of 1,000 kva, which had cost the studio £5,000 on maximum demand charges; with the new system this could have been avoided. H. V. Hauser agreed with other visitors that the system appeared to have no hidden snags.

Series Running

Another demonstration, this time of simple series running, showed how, from a given portable generator of 150 amp. capacity, four times the light output could be obtained. Instead of the single MR 170 which would have constituted a normal load for this little generator, a pair of "Brutes" were run in series, of course, with the new carbons. "The Brute" is considerably more efficient optically than the 170, and the possibility of running two in series—at 150 amps. instead of the rated 225—meant that nearly four times the light output was obtained, as compared with the single 170.

It is not suggested that the running of lamps under either of these conditions is in itself desirable. But the principle of series running may render possible a much increased light output in relation to the capacity of the source. This may be of value, for instance, in the case of Technicolor shots in the studio, or for location shots, where a generator of limited capacity is available. Photographic quality may be improved, since instead of sending out a dozen 170s with a given generator it is possible to send out two dozen.

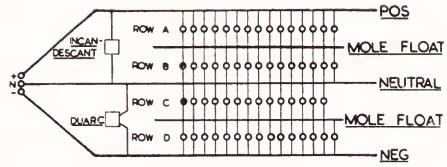

Fig. 2—Theoretical circuit for series running. 59 MR 170 arcs in series, 1 incandescent 2 Duarc in parallel

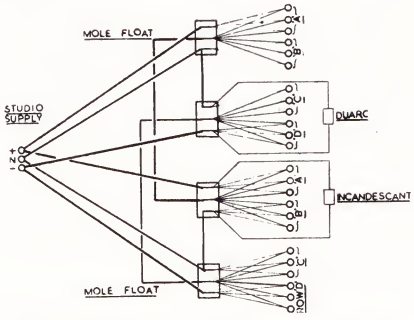

Fig. 3—Practical circuit of demonstration, using three-way boxes

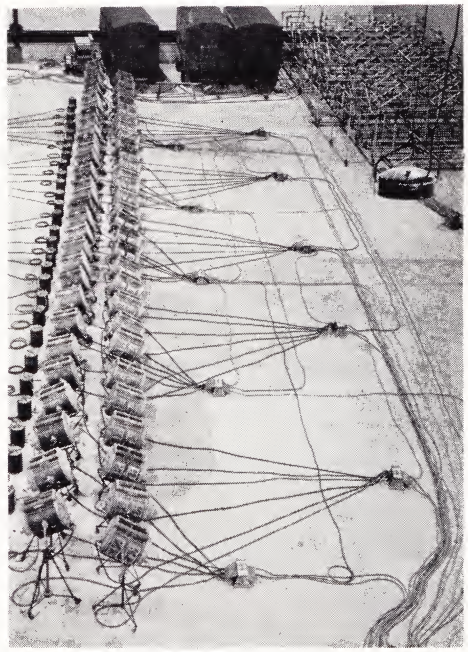

Fig. 1—Sixty MR 170 lamps assembled for the test on the silent stage at Shepperton

COLOUR COMPENSATING FILTERS

THE fact that scenes shot under different lighting conditions or with different emulsion numbers have to be spliced together in sequence makes the precise control of colour temperature far more important in colour kinematography than in straight colour photography. It is necessary first to be able to measure the colour temperature of the lighting with some accuracy—two types of American meters, the Norwood and the Spectra, have been recently described in the KINE.—and then to make any necessary correction by means of lens filters.

Eastman Kodak have introduced in America a new range of colour compensating filters, which makes possible a far wider and more precise choice than hitherto. This new range, Kodak state, will not be available at present in this country, but will be eventually adopted.

The existing range of Kodak CC (colour compensating) filters provides three colour ranges, yellow, magenta and cyan, each in four densities, the relative contrasts ranging from ¼ to 2; in addition, the CC13 and CC14 serve to compensate Type 5268 Kodachrome stock for photoflood illumination, and the Wratten 83 to daylight.

In the new American range, six colours are available, yellow (to absorb blue), magenta (absorbs green), cyan absorbs red, red (absorbs blue and green), green (absorbs blue and red) and blue (absorbs red and green). The nomenclature of the new filter range indicates at once the colour and density. Thus a CC-05-Y stands for a peak density of .05 in yellow, CC-50-B represents a density of .50 in blue. Exposure increase ranges from nil for the former filter, up to 1 1/3 stops for the latter.

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THE PRODUCTION SCENE—Present and Future

By GRAHAM CLARKE, "Kine." Studio Correspondent

IF anyone wished to make a quick assessment of the state of the British film industry at any given moment, probably the best way is to consider what the studios are doing.

Every week the KINE.'s production chart tells the trade about its British "futures," and the story has been depressing for several months now, at least so far as quantity is concerned. At the present moment there are nine features on the floors of eight studios, but not all of them are due to be followed immediately by successors. Of this total, seven can be described as British and another is being made wholly by an American company using frozen credits.

This is Warner's historical subject in Technicolor, "Captain Horatio Hornblower," which has lately been split into two units, one at Denham, where the cameras first turned ten weeks ago, and the other at ABPC's Elstree studios. "Hornblower" has not had the smoothest of passages; there have been disagreements with Equity over the casting of Virginia Mayo and with the ACT over the use of an American assistant, but it seems as though these have been smoothed out. Warner's own studios at Teddington are marking time at present, but Romulus intends to go there for "I'll Get You for This" when it finishes location shooting in San Remo.

Associated British has had pictures at each of its two studios, but "Happy Now I Go," in which Phyllis Calvert stars, finished last week, having been 12 weeks on the floor, after three weeks' location. At Welwyn, J. Lee Thompson is making his debut as director of his own story, "Murder Without Crime."

"The Franchise Affair" now on location goes to Elstree next month.

Although Pinewood has on the floor at the moment only the Somerset Maugham subject, "Trio," the future there has good prospects. Anthony Asquith will begin his "The Woman in Question" on Monday, and Betty E. Box, now on location with "The Clouded Yellow," her first independent production, is due back in the studio on May 15, and also has been working on the possibility of filming some de Maupassant stories dealt with in the same way as "Quartet" and "Trio." These, however, are not likely to be made this year, and Betty Box, before that, plans for the autumn another picture with a documentary background. In the further future at Pinewood is the Rank Organisation adventure story of the whaling industry, "The White South."

The story at Ealing is of continued industry. "Cage of Gold" has now been on the floor for eight weeks and when it finishes in the middle of next month it will be followed almost immediately by "The Magnet," a comedy with a most unusual twist.

There has lately been increased activity in the Alliance group of studios, though Twickenham is still empty. At Riverside the brothers Proudlock, of Vandyke, have gone into a studio for the first time in their career for the thriller "The Six Men" and have three more in prospect, all of which they aim to make either there or at Southall. Eros are the distributors.

After an interval of idleness Southall resumed activity last week when Tempian went on the floor with a four weeks' schedule for "Murder by the Book," which is to be followed by another picture, "Blackout," on a similar schedule as the beginnings of a plan for four productions by the company this year.

Nettlefold is also active at the moment with a comedy-thriller, "Midnight Episode," that Theo Lageard is making for Columbia. There is no news of an immediate follow-up, but "Mrs. Drake's Duck," a comedy for Douglas Fairbanks, jun., which Eros will release, is due there in May.

For over two months the Gate at Elstree has been busy with the Herbert Wilcox production of "Odette GC," a GFD release. The unit has been in France these last three weeks and there will only be odds and ends to pick up now it has returned.

Shepperton at present has only "futures," but two are important. The 20th-Fox production of "The Mudlark" is due there on May 15, and Romulus aims to use the studio for the interiors of "Pandora and the Flying Dutchman" on return from location in Spain.

One company with a full programme is Exclusive, which has for some time now used country houses as studios. The company has just finished "The Lady Craved Excitement" at Oakley Court, Bray, and is in the process of moving to a larger country house at Gilston Park, Harlow, Essex, where a schedule of twelve features a year is proposed, with Oakley Court still kept in reserve for use if needed.

A new Jewel and Warriss comedy, "Up the Pole," started at Manchester on Monday.

There is nothing on the floor at MGM-British, Elstree.

A NEW WEST-END RECORDING STUDIO

A RECORDING studio, equipped for Western Electric recording, has recently opened in the West End at an historic address: 19, Lisle Street, where many years ago pioneer Will Day founded his business. Today the studio is run by his sons Bob and Eric and by Dennis Scanlan (late of "March of Time") MGM.

The studio itself measures 40 ft. by 18 ft., and is fully sound-treated to give a reverberation time of half a second. It will accommodate a 15-piece orchestra.

Projection is across the narrower dimensions. Facing the screen is a commentator's recording booth; above this the 35-mm. projection room, and below it a 16-mm. projector, shooting upwards to the screen.

The 35-mm. projectors are Kalee 12s, with Stelmar arcs and RCA sound—one fitted for cloverleaf running. The latter adaptation was carried out to the design of Bob Day, and the take-up is driven by a separate motor. For 16-mm. a standard 16-mm. projector has been reconstructed; and provision is made for cloverleaf running. All the sound heads feed into the same theatre speaker system, and as a result the 16-mm. sound is outstanding.

Behind the 35-mm. projectors (in the room which once housed many of Will Day's unique pieces of historical apparatus) is the Western Electric recording channel on which both 16-mm. and 35-mm. sound is recorded.

All projectors can be interlocked with the recorder, and a patching panel permits any connection of equipment so that direct recording can be carried out from microphone, or re-recording can be effected to or from 35-mm. or 16-mm.

The excellent equipment and central position of this little studio have already led to its being fully occupied.

STUDIO AND SUBJECT.	STARS.	DIRECTOR.	LIGHTING CAMERAMAN.	PRODUCER AND RENTER.	WEEKS ON LOCATION.	PROGRESS. ON STAGES (WEEKS)
EALING—Ealing 6761-72						
"Cage of Gold"	Jean Simmons; David Farrar	Basil Dearden	Douglas Slocombe	Michael Balcon: GFD	—	8
ELSTREE (ABPC)—Elstree 1600						
"Captain Horatio Hornblower"	Gregory Peck; Virginia Mayo	Raoul Walsh	Guy Green	Warner First National; Warner Bros.	—	10
GATE—Elstree 2080						
"Odette GC"	Anna Neagle; Trevor Howard	Herbert Wilcox	Max Greene	Imperadio Pictures: Br. Lion	6	9
MANCHESTER—Rusholme 4025						
"Up the Pole"	Jewel and Warriss	——	——	——	—	—
NETTLEFOLD—Walton-on-Thames 2414						
"Midnight Episode"	Stanley Holloway	Gordon Parry	Hone Glendining	Theo Lageard: Columbia	—	3
PINEWOOD—Iver 700						
"Trio"	Jean Simmons; Michael Rennie; Kathleen Harrison; James Hayter	Harold French; Ken Annakin	Reg Wyer; Geoffrey Unsworth	Anthony Darnborough: GFD	—	7
RIVERSIDE—Riverside 3012						
"The Six Men"	Harold Warrender; Olga Edwardes	Michael Law	S. D. Onions	Roger Proudlock: Eros	—	2
SOUTHALL—Southall 3281						
"Murder By the Book"	Hugh Sinclair; Dinah Sheridan	John Gilling	Monty Berman	Robert S. Baker:	—	1
WELWYN—Welwyn Garden 3241						
"Murder Without Crime"	Dennis Price; Derek Farr	J. Lee Thompson	Bill McLeod	Victor Skutezky: AB-Pathe	—	8

MERTON PARK and BEACONSFIELD are being used for sponsored subjects and CARLTON HILL for television films

FESTIVAL OF BRITAIN EXECUTIVES AT ELSTREE

A tour behind the scenes to see the equipment, administration and general working of the Associated British Studios

WITH the aim of providing for the organisers of the Festival of Britain a comprehensive insight into the resources and administrative processes of an up-to-date British film studio, the directors of Associated British Picture Corporation and of the affiliated company, Pathé Equipment, invited Festival of Britain executives and those of the Council of Industrial Design and of the RAF Cinema Corporation to visit Elstree studios last week.

The party went by motor-coach from London, Charles Pickett, general manager, Pathé Equipment, and P. G. N. Hammond, general sales manager, accompanying them and F. H. Mooney having charge of arrangements.

At Elstree the guests were welcomed by V. N. Dean (studio general manager), and a tour of the studios and the ancillary departments was begun under the informative guidance of Leslie Frewin, the studios' publicity director.

The visitors showed great interest in and expressed astonishment at the completeness of the studios' resources, specialists in various departments of the Festival organisation finding the architects' section, with its detail drawings and models and paintings, and the wood-working and plaster shops, full of fascination. Furnishings and properties, the operation of cameras and background projectors and the lay-out and equipment of the theatres were the subject of much questioning, all of which was satisfactorily and helpfully dealt with by the studio technicians and department chiefs.

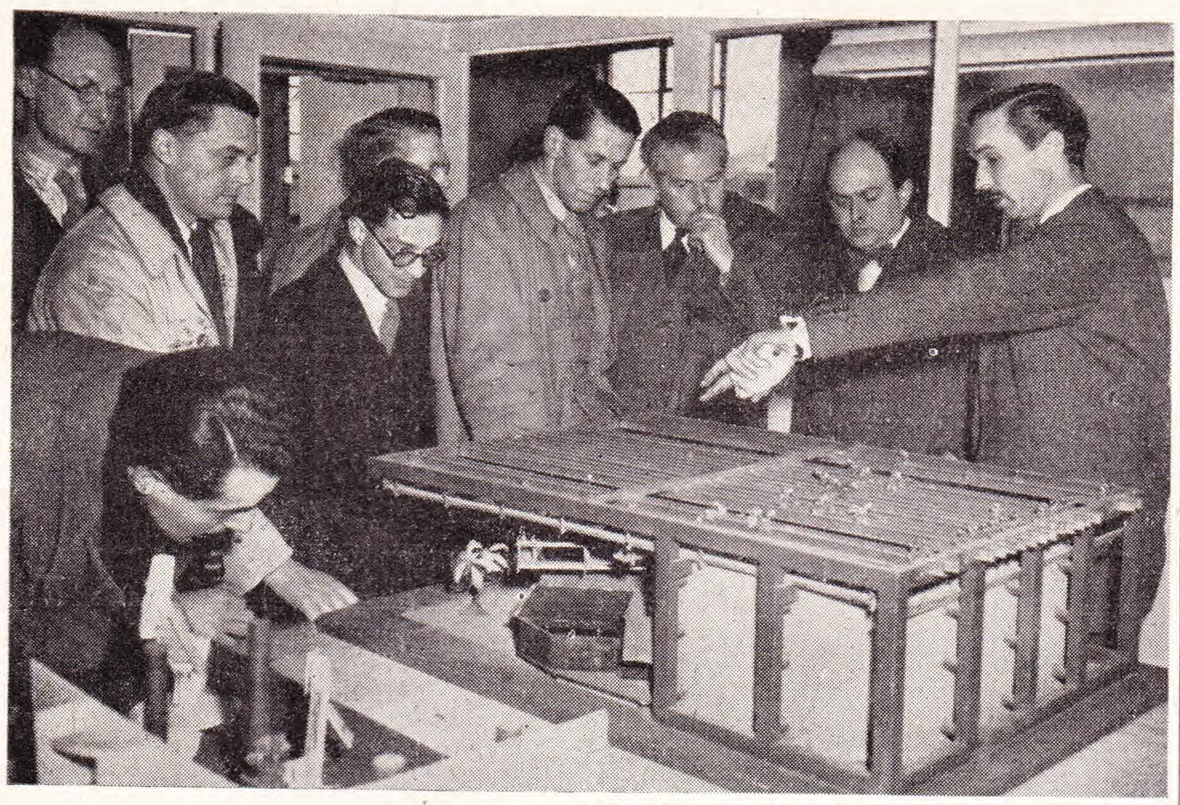
The tour of hairdressing and costume departments ended with a glimpse of the dressing-rooms and their furnishings, and the party went to the executives' canteen for luncheon, served under the supervision of the studio's canteen manager, W. Silcock.

In less than an hour the guests were back again in the studio to watch the preparation and shooting of Technicolor scenes for the Warner picture, "Captain Horatio Hornblower," the set being the below-deck quarters of the ship HMS *Lydia* turned into a sick-bay for sailors wounded in a sea fight. They watched the sequence of Captain Hornblower (Gregory Peck) visiting his wounded men, and the death of the midshipman (James Kenny) in the arms of Lady Barbara (Virginia Mayo).

In an interval between rehearsals and actual shooting, members of the party were introduced to Gregory Peck, who asked about the scope and purposes of the Festival, and said he hoped he might find it possible to visit Great Britain next year to see the results of their efforts.

The Festival party included: Wells Coates, OBE, RDI, FRIBA, BA, B.Sc, Ph.D; J. Holland, FSIA; R. Jeffryes; Brig.-Gen. J. L. P. MacNair, directorate of Science and Technology; P. Kneebone, MA, LSIA; J. Ralph (British Film Institute); Raymond Spottiswoode; W. B. Perry, Technical Supplies Research; A. R. Trubshaw, MBE, Chief Technical Supplies and Common Services; A. D. Hippisley Coxe, industrial design representative to the Festival; and the following Council of Industrial Design representatives: P. E. N. Sharp, BSc; R. H. Gaynor, MA; G. W. Hart, MA; F. C. Riches, ACGI, MBKS; J. G. Medwin; W. E. Awde. Air-Commodore Prall, CBE, and J. E. Hamburgh, general manager and deputy general manager, represented the RAF Cinema Corporation.

Vaughan Dean, studio manager ABPC Studios, Elstree, welcoming Charles Pickett, general manager Pathe Equipment, and Executives of the Festival of Britain, Council of Industrial Design and RAF Cinema Corporation on the occasion of their visit to the studios. Others in the picture include, Wells Coates, architect; Brig.-General J. L. P. MacNair; A. J. Garret, BSc; A. R. Trubshaw, MBE, chief executive technical supplies C. I. Design; F. C. Riches, industrial officer C. I. Design; Air-Commodore Prall, general manager RAFCC; J. Ralph, BFI; P. G. M. Hammond and F. H. Mooney, Pathe Equipment



Terence Verity, ARIBA, designer ABPC explaining the principle of the model set used in "Hasty Heart" to Mr. Wells Coates, OBE, RDI, FRIBA (who can be seen third from the right), and other Festival of Britain executives

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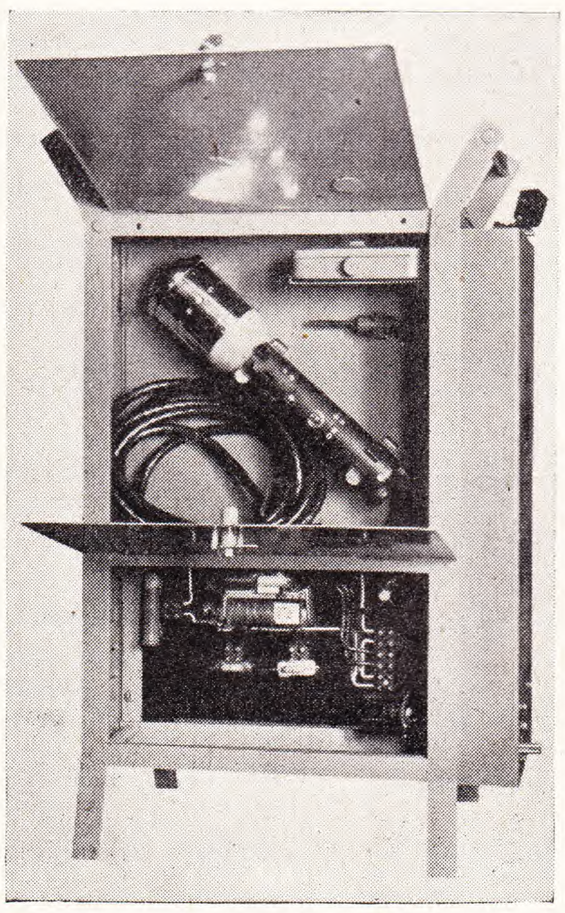

The cabinet in which the GEC special effects torch is housed

SPECIAL EFFECTS HAND TORCH

Suitable for Colour Work

A FURTHER contribution has been made by the General Electric Co. towards overcoming a film studio problem of long standing—that of providing a satisfactory "Special Effects" hand torch for burglar scenes and the like. The new torch contains a small carbon arc lamp with a voltage across the arc of 25 v. and a current consumption of 5 amps. A ballast resistance is supplied so that the lamp can be operated from the normal studio supply of 115 v. DC.

It will be remembered that a "Special Effects" torch with an Osram 125 w. Compact source lamp was introduced recently by the GEC, but in this small size the lamp cannot be colour corrected easily for colour film work. The new arc torch, on the other hand, emits a powerful beam of colour-corrected light.

The case in which the ballast resistance is housed has separate compartments for carrying the torch itself, spare carbons, a screwdriver for carbon replacement and focusing, supply leads and 25 ft. of extension cable.

The torch can be held in the hand like any normal battery torch. To switch on the user moves a switch, normally covered by the hand, to the "on" position, and momentarily depresses a knob which causes the arc to strike. Two small knobs on the base of the torch can be rotated to adjust the carbons. Once the carbons are set the torch burns steadily for a few minutes so that no readjustment is required during "shooting" of the scene. The top of the torch is hinged to give access to the carbons when replacement is necessary.

The torch can now be hired through the GEC Studio Hire Section, and is also being produced for direct sale to film studios.

SIR MICHAEL BALCON ON BRITISH PRODUCTION

Position Steadied and Deterioration Halted

"WE must accept the fact that, at the moment, the British film industry has reached its lowest ebb, but the position has been steadied and the deterioration halted. It is our very last chance, and it behoves both management and labour to take their responsibilities very seriously indeed."

This is a nutshell summing up of the present situation in Britain, by Sir Michael Balcon, Ealing Studios producer, honorary adviser to the National Film Finance Corporation, a director of J. Arthur Rank Productions and recently appointed also to the Odeon board of directors.

In Sir Michael's opinion the crisis has resulted in a welcome revival of cost consciousness in production.

Small Mercies

But some measure of tax relief from the Government is necessary. If the KINE. forecast last week of what was due to the producers was agreed, then producers would be disappointed, but, he added, "I, personally, shall be grateful for small mercies, and anyone who opposes such a measure to the point of holding up the concession would be doing the industry a very great disservice. Without some support of that sort there would have been the possibility of a collapse of production.

"It is the smallest possible blood transfusion to keep the heart beating," he said.

Of the National Film Finance Corporation, Sir Michael said that, although he was not entitled to speak on its behalf, in his opinion it had done a far greater job than people give it credit for. The NFFC has, in effect, stopped the whole business from falling to pieces, and its full worth has not yet been recognised.

Praise for N F F C

"Its mandate was to stop the rot and to maintain a certain employment position," said Sir Michael, "and now that things are getting steadier, I detect distinct signs that it is doing even more useful work, inasmuch as there are a number of worthwhile projects being supported, projects that are outside the conventional routine of getting pictures set up."

Clarifying his positions with JARO and Odeon, Sir Michael said that one of the rumours going around was that he had to pass every script and be concerned with every picture. That was not true, of course. He gave advice when asked, but there was never any suggestion that he could, or would, superimpose his views on the creative efforts of others. His main concern, personally, was the production of films at Ealing, and, he added, "I hope to be concerned with the running of Ealing for the rest of my working life."

Of the present Rank production policy, Sir Michael confirmed that the company would "go easy" on production until there was some adequate relief from taxation, but it would be wrong to think that it is not continuing to make a considerable contribution to film production in this country. It is giving every possible encouragement to those independent film producers who have persuaded the NFFC that they are worth backing. In the next seven or eight months there will be some first-class films made on a professional basis and at a reasonble cost.

Speaking of Ealing, Sir Michael said, "We have not had too happy a time. We have made what we believe to be some great international successes: 'Kind Hearts and Coronets,' 'Whisky Galore' and 'Passport to Pimlico' are having long runs in almost every part of the world, for instance.

"But it is very disheartening to find that, in spite of the successes, the margin of profit is barely large enough to cover us for the inevitable losses that people do make in the show business.

Ealing is Steadfast

"If there is any positive proof that something is wrong in the State of Denmark, it is the fact that Ealing is not far more prosperous than it is.

"But we still hope to remain professional survivors of the crisis and nothing short of an earthquake is going to stop our programme."

"Better Springs" and "Cage of Gold" were now ready for showing, and Ealing had great hopes of "The Magnet," which would be the company's entry for the Royal Command Performance.

"Pool of London," "The Lavender Hill Mob" and "The Man in the White Suit" were ready to follow, and a reconaissance party is on its way to South Africa for preparatory work on a film to be made in Kenya, "No Vultures Fly" (in conjunction with the Schlesinger interests).

The studios were already thinking of 1951 production, and had a group of subjects in hand and being worked upon.

Quality Above Quantity

"We shall continue to make four, or perhaps, five pictures a year," said Sir Michael. "We have no ambitions to enlarge our output. We do not believe in quantity, particularly if it is at the expense of quality.

"I am not foolishly over-confident. The conditions against us are hard, but I shall feel more optimistic if there is a tax relaxation, because I knew that it was a hopeless cause unless there were some relief of that sort.

Sir Michael pointed out that recently a large proportion of film production had transferred some of its risks to the State, which meant that, unless the position were altered and improved the losses of private enterprise would have to be borne by the State.

"The position had become so bad that, even if it had been possible to make miraculously good pictures every time, which is an absurdity, production companies would still make a loss," said Sir Michael.

But there had not, by any means, been a succession of miraculously good pictures in the last few years. In his opinion, there had been a wave of creative stagnation throughout the world. It was a cyclic trouble that occurred every so often.

With a few odd exceptions, films had not been made as excitingly or in as novel a way as they might have been. That did not apply only to this country, it had affected America as well.

Brighter Signs

Although that did not entirely explain the world shrinkage of audiences, which was largely governed by economic reasons, it had contributed to that, and he was delighted now to see signs of brighter, more interesting and more exciting subjects and treatments in film production.

"It is my belief," he said, "that this is our very last chance and management and labour must seize their responsibilities.

"Any excess demands from either side now could ruin the whole prospect of recovery. If any relief is forthcoming, it must not be looked upon as a sort of millenium in which producers can go mad with money or any unreasonable demands can be made by labour."

Says P. L. MANNOCK

SAM GOLDWYN *is* Concise—and Candid

At a dinner given last week, at 96 Piccadilly, in honour of Mr. and Mrs. Samuel Goldwyn, the British Film Academy made him a life-long honorary member. He thus becomes the first American producer member of this body. In this picture Ronald Neame (chairman of the British Film Academy) hands Mr. Goldwyn his life-long honorary membership of the Academy

IT'S always a pleasure to meet Sam Goldwyn. As trade reporter, fan magazine editor and national newspaper critic, I have known him for a quarter of a century, on and off. My old friend Ronald Colman and I once induced him to take a young man to Hollywood. I have helped him light a coal fire in his hotel, inspected the infant Sam, jun., and was once offered £50 by a West End star for a personal introduction. He has a disarming technique of proclaiming that he has nothing to say—and never failing to provide something worth printing.

To the ordinary public, of course, he is mainly a completely spurious legend; a male Malaprop, product of a journalistic imagination through the years. Sam Goldwyn doesn't mind; why should he? It helps to get into print his genuine pronouncements, always good horse-sense, and globally reported.

At Claridge's the other afternoon I found him as stimulating company as ever. Whatever may be the popular conception of the man, the British trade knows him as an honoured figure of immense achievement, whose candour often shatters, and whose views, not always orthodox, command unique respect.

I caught him and the charming Mrs. Goldwyn on their return from Pinewood, where their contacts, for all I know, had been momentous; and it was agreed that the KINE. might publish answers to my questions (or most of them) on improved In Town Tonight lines.

Is the film habit waning? I hear of reduced attendances and halls shut down in America.

"It's true at the moment, for two reasons. First, everyone has less to spend. Second, television, which has come to stay and is affecting every other form of entertainment. But its appeal is still largely one of novelty, just as radio once was, and the first talking pictures. Eventually this will find its level. It is not affecting the success of fine pictures still doing good business; but is certainly hitting the mediocre film. People don't go out to the movies unless they hear the film is good. Even a double bill of mediocre films fails to drag them out of doors."

You regard the double-feature programme as a mistake?

"I always have. One of the oldest mistakes in entertainment is to imagine the public prefers quantity to quality. It happened years ago with vaudeville in America. The big Keith-Albee circuit first used films as 'chasers'—something to get audiences out of the hall. When kinemas became a serious rival, the circuit doubled the number of acts; vaudeville declined in quality and never recovered. There are far too many double-feature bills today, always at the expense of quality; for it is difficult

enough to get hold of *one* good feature for your public. I have a letter from a showman who calls the double bill a cancer in the industry. America has many areas where single features have always been the rule; and I can tell you that today those are the areas suffering least from attendance slump."

Would it then be better if Hollywood's output were reduced?

"Yes. Too many pictures are being made. Quality, especially story quality, is affected. There are only so many good stories around. What happens? Only the best pictures make real money. This applies to you just as much as to us."

Film plots have "cycles" of similarity, such as the craze for psychiatry; is this a bad thing?

"To make films that are imitations of others is just suicide. Showmen who demand copies of successes are doing their best to weary their audiences."

Is there a point in subjects being well-timed, to foresee topicality?

"Yes. A producer should think one year or even two years ahead. The public cannot tell him what to make; he makes a film and hopes they will like it. I make the pictures I like. Even with the best judgment, of course, you have to take a chance; it works out in the long run. Nothing lost, nothing gained."

Does heavy studio spending indicate waste?

"If it's seen on the screen, no. If it's on the cutting-room floor, yes. You must have a fine producer and a fine editor."

What is the prime need of picture-making?

"You start with a producer, who picks the right people and must be a showman too; I can't make pictures with bad people around me. Stories, cameramen, players, everybody must be the best I can find. The producer must be trusted, left alone, and judged by results. He must plan everything including cost. Fifty per cent. of the work on a picture is done before shooting starts."

Are films an industry or an art?

"The exhibition end of films is an industry. Producing them is an art. Part of the trouble is that it's the industry that gets the lion's share of the dollars.

"Bankers have never made pictures."

Is the British market still important to Hollywood?

"It is. Our production costs are budgeted in direct relation to our export

trade, of which Britain still forms a large part. Is is especially valuable today, with reduced outlets on the continent of Europe and devaluation, which has hit Hollywood hard."

Does the American showman find entertainments tax a burden?

"Unquestionably. But our tax is being cut. And I can assure you that there is not the least likelihood of any tax revenue being used to subsidise Hollywood."

How does the living theatre stand in relation to films?

"The living stage depends on the play, not the actor; just as the film depends on the story, not the stars. No performer succeeds with poor material."

What of the quality of British films?

"You make some fine ones, like 'Kind Hearts and Coronets,' 'The Third Man,' and 'Hamlet,' all money-makers—and some bad ones, too. Hollywood does the same. The more pictures one makes the more bad ones will be made. Your best are very fine. On the other hand, in my opinion, Hollywood is making as many good pictures as ever."

Are you satisfied with present conditions of exploitation?

"I am not. The producer has to do most of it; he is expected to do almost everything except stand outside the theatre and ask people in. The exhibitor must do his share, getting together with the producer. Sensible exhibitors know this perfectly well; but the grabbing, avaricious showmen—they are on both sides of the Atlantic—don't realise the need for bigger and better exploitation."

Is it true that you are using a new film stock of greater sensitiveness?

"It is quite true. A new Eastman stock, on which I have made 'Edge of Doom,' has enabled me to take street scenes at night with no extra lighting."

Mr. Goldwyn confirmed that he hopes to make two films in this country. My final question was:

Did you meet Mr. Rank this visit?

And here, Mr. Goldwyn became, as on previous occasions, the communicative oyster, the eloquent clam. His answer, delivered with a twinkle, was "Yes."

R. P. BAKER IS NEW BFPA PRESIDENT

ONLY nomination received for the presidency of the British Film Producers' Association is that of Major R. P. Baker, managing director of Ealing Studios, whose election thus becomes a virtual certainty at the annual meeting of the association on July 5.

As announced in the KINE. at the time, the president, J. Arthur Rank, is not seeking re-election.

The Art of Colour Photography

IRWIN HILLIER, Cameraman on "Happy Go Lovely," Has Two Main Bases for Stereoscopic Effect in Lighting

There is a great temptation to pile in all the colours imaginable says Irwin Hillier, who is seen standing in this picture

HIS own theory that lighting for a Technicolor picture should be the same style as for black and white, though in a different key, is being tested by lighting cameraman Irwin Hillier, now at work on "Happy Go Lovely," the gay mixture of music and comedy that is being produced at Elstree by Marcel Hellman in conjunction with Associated British Picture Corporation.

Irwin has always felt that American cameramen, working on colour, get results that are brilliant, but harder than is necessary, possibly owing to the generally accepted idea that Technicolor demands lighting that is flatter than is normal in black and white, leaving the colour separation to give the required depth. Substantially this is true, but Irwin, with the co-operation of his director, Bruce Humberstone, who is one of the most experienced Technicolor directors in America, is combining the black and white and colour methods to produce what he calls, for want of a better word, "glow."

Low Angles Pay

His system, of course, really starts before ever he, himself, sets a lamp in place. It starts with the sets and designs of art director John Howell, who has given him brightness in colour only when the sparkle of the story really requires it. For the rest, costumes and sets are matched mainly in soft, self-colours.

"If the art director's ideas are wrong," says Irwin, "obviously the cameraman can do little. There is a great temptation to pile in all the colours imaginable, but we have resisted it."

Irwin has two main bases for his lighting; he believes in low angles whenever possible and is also one of the very few in this country who uses and likes deep focus. He never lights an artist from the spot rail unless the story absolutely demands it and works on a system of making his key lighting follow through all on one angle, the whole plan being based on fairly low soft light to give balance and harmony. The key lighting is then made high enough to give modelling. Artists are always lit with cross lights, never flat on.

"People will tell you that the camera sees what the eye sees," he comments, "but that is not true, for the camera does not really see depth. Cross lighting, however, can help to give an illusion of stereoscopy."

Killing the Redness

One or two interesting personal experiments that he has tried have already proved successful. It is acknowledged that colour photography has a natural tendency towards redness unless it is carefully handled. This is particularly liable to happen when artists move from a high key to a lower key of lighting.

In night sequences for "Happy Go Lovely," Irwin has several artists moving from shadow to light and back again. To kill the redness in the shadows Irwin used blue filters on his filler lamps and has achieved a most natural silhouette effect in bluish black. For early-morning sequences, where light contrasts were sharper than normal, some of the filters were blue and some were half blue; the result in this case also is naturalistic.

The Painter's Eye

Before he came into studios on camera work, in 1928, Irwin Hillier did a great deal of painting; hence his interest in pictorial composition. His first job as a lighting director was in 1936, on a musical, "Sing As You Swing." Recent pictures that he has lit are "Shadow of the Eagle" not yet seen, "Interrupted Journey," "Private Angelo" and "Mr. Perrin and Mr. Traill," which, incidentally, was his first complete essay in deep focus.

This "Kine." Survey Reveals

WHAT THE U.S COMPANIES PLAN TO PRODUCE HERE

AMERICAN production in Britain, which in some cases has shown recent signs of coming to a standstill, now promises a comparatively small but steady use of British studios.

In interviews with chief executives over here, KINE. Studio Correspondent, Graham Clarke, found that 20th Century-Fox, Columbia and MGM were all contemplating a series of British productions, one of which will reopen the stages at Denham.

20th-FOX

BRITISH schedule for 20th Century-Fox, according to Freddie Fox, the company's chief over here, is to make three features a year in British studios.

20th-Fox is the only American company that at present has a production on the floor here: this is "The Mudlark," story of Queen Victoria, starring Irene Dunne, which is making smooth progress at Shepperton studios.

Next production, set for the second week in September, is "No Highway," and this is particularly interesting because it is likely to mark banishment of the over-long period of darkness on the Denham stages. "No Highway" is a story by novelist Nevil Shute, set mainly in the Royal Aircraft Establishment at Farnborough, which is the centre of British aircraft research. Freddie Fox, with art director C. P. Norman and other technicians, has already made a survey of the establishment. The picture is expected to be ten weeks on the floor at Denham and there will be three or four weeks on location.

Overlapping "No Highway" and due to start before Christmas is another film with a realistic background called "Inside Scotland Yard." This is based on a story by *Daily Express* crime reporter Percy Hoskins, and the screen version is to be written and produced by Sam Engel. The project was first launched when Engel was over here making "Night and the City."

First production for 1951 will be "International Police," a title that explains its subject, and a possible follower will be "Lydia Bailey," though much of this may be made in East Africa. Locations out there have already been prospected by production manager Leslie Gilliatt, brother of Sidney Gilliatt.

Another Fox future is the Rommel story "Desert Fox," which Nunnally Johnson (now flooking after "The Mudlark") is to produce. This, again, is likely to be mainly on location, Africa being the obvious venue.

In addition 20th-Fox will be servicing the Anatole Litvak film, "Call It Treason," to be made in Germany. British artists, but not British technicians, are likely to be called for.

No production activity is visualised by the company at the Wembley Park studios, which it owns. Plans for development there, made some years ago, have met with strong opposition from the local district council, and have been shelved.

MGM

RESUMPTION of production at Metro-Goldwyn-Mayer British studios, Elstree, is due in the near future.

Hayes Goetz, producer, and Victor Saville, director, arrived in England last Thursday to finalise preparations for a screen adaptation of Gerard Fairlie's novel, "Calling Bulldog Drummond." Walter Pidgeon will star in the film and is due here within a few weeks. "Calling Bulldog Drummond" will involve a certain amount of location shooting.

Scheduled for production in the spring of 1951, "Ivanhoe," the Sir Walter Scott classic, will be one of MGM's major Technicolor productions for the year. Some of the sets are already in the course of construction and a reproduction of Torquilstone Castle is well advanced on the lot at Elstree. Casting is as yet undecided.

It is hoped that "Ivanhoe" will be the first in line of a continuous MGM British production programme to commence in 1951. Also scheduled for production is "The Romance of Henry Menafee," a story by Paul Gallico, which will be produced by Leon Gordon and which Mervyn LeRoy (now engaged on "Quo Vadis?" in Rome) has been chosen to direct.

Plans are also in hand to produce "Young Bess," Margaret Irwin's best-selling historical novel. The producer will be Sydney Franklin, who made "The Miniver Story," the last MGM British production to be made at Elstree.

COLUMBIA

"WE shall continue with a programme of British production in British studios," said Max Thorpe, managing director of Columbia over here.

"In the past," he said, "we have been well satisfied with our British productions and so have our customers. We have a very important independent field to service and we shall fulfil our obligations to our independent customers by giving them British pictures, bearing in mind that they are also taking a great number of our American productions.

"Our British programme will, as in the past, include features, co-features and supporting films, although it is not possible just now to look ahead and say exactly how many productions are visualised this year and next.

"We have already made three British pictures this year, 'Shadow of the Past,' and 'Come, Dance With Me' and 'Midnight Episode'; and we are now negotiating for two more projects that are prospects for this year. Incidentally, 'Shadow of the Past' is to have release in America, Australia, Canada and New Zealand."

Of 1951, Mr. Thorpe confessed that he could say very little as yet. "It is too far ahead," he commented, "but we have our policy and no doubt we shall carry it out."

Columbia has, of course, yet another two years to run of its lease on Nettlefold Studios, at Walton, where this year's films were all made.

Asked whether the company would be producing pictures that had an essentially British character, Mr. Thorpe said that this was not intended unless the story demanded it. "We specialise in action films, whether they are made here or in America, and our main aim is to make our pictures entertaining," he said, and added: "Our activities here are solely concerned with the requirements of this country. We do not budget for an American release, though we always hope for it."

WARNER'S

ONE more picture this year and the prospect of two or perhaps three next year is the programme of Warner Brothers.

The company's production plans are not definite yet, said Arthur Abeles, Warner's managing director over here. The picture to be made before the end of the year will be produced at the Associated British studios at Elstree under arrangements similar to those for "Stage Fright" and "Captain Hornblower." No subject has yet been settled.

Next year Warner's expect to make two more big features in co-operation with ABPC, and will adhere to its past policy of employing a balance of stars from America and Great Britain, so as to attract audiences on both sides of the Atlantic.

A C T Films unit on location on Romney Marsh for GREEN GROW THE RUSHES. Left to Right: Peter Hall, loader/clappers; Cecil Forde, assistant director; on ground: Harry Waxman, director of photography; Derek Twist, director; Marjorie Owens, continuity; A. Jones, props; Ken McKay, make-up; foreground: Sid Davies, focus; Len Hunt, props

THE REST OF THE STUDIO NEWS

A.C.T Enlists Public Aid for Scenes at New Romney

NEW Romney, Kent, provided a slice of its own history last week towards the making of "Green Grow the Rushes," the first production by the recently formed co-operative unit of the Association of Cine and Allied Technicians, which is now on location. The town's procession in commemoration of its charter, which normally takes place in August, was reproduced for the director, Derek Twist.

Permission was given to decorate the picturesque old High Street, the local newsagent's shop was temporarily turned into the office of the local newspaper, and special care was given to the seventeenth-century Town Hall.

The procession, which the townsfolk turned out in force to watch, was headed by a brass band in scarlet and gold, composed of musicians from Folkestone Corporation's orchestras, under conductor Phil Tate. Originally they were intended only to be seen on the screen, but, after hearing them play, the film's musical director, J. Lambert Williamson, decided to make recordings as well. Veteran actor Harcourt Williams, playing the part of the chairman of the magistrates, had on either side of him the actual Town's Sergeant and the Mayor's Sergeant, bearing the genuine silver gilt maces that are dated

Continued on page 9

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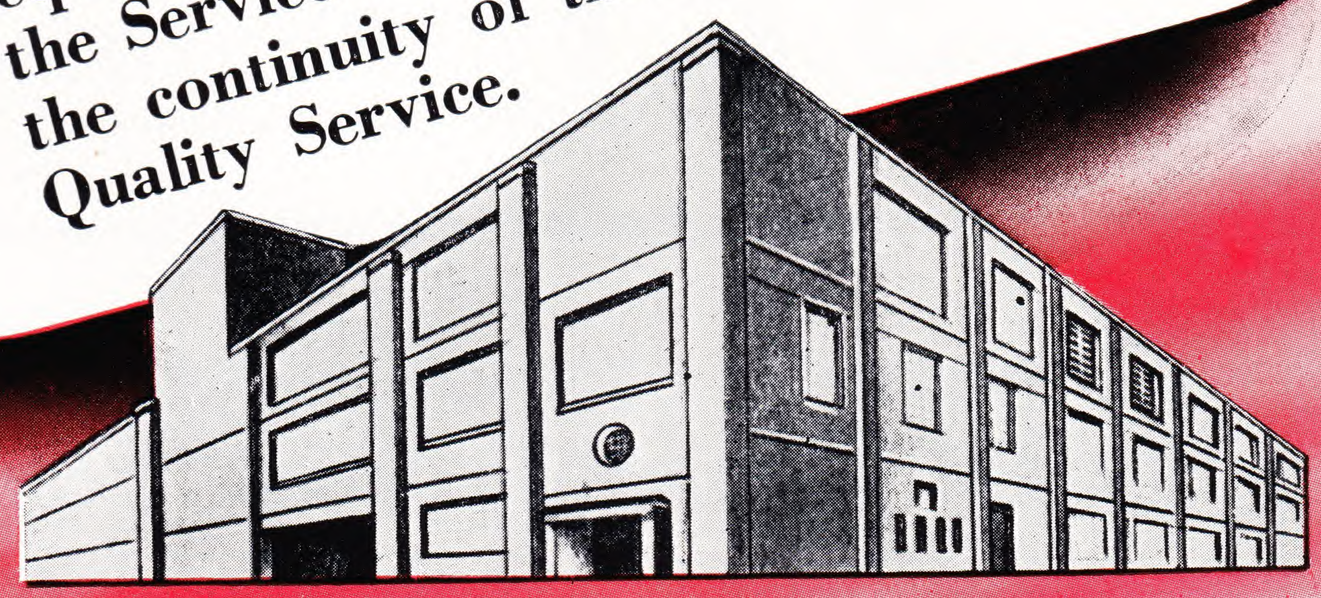

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REST OF THE STUDIO NEWS—contd.

1742, and valued at £600 and £700.

King Henry III was impersonated by a New Romney member of the cast, John Stamp, astride a carthorse that had been broken in to a saddle only a few hours previously. Local extras were used for a decorated cart, the carrying of a Maypole and on a trailer with a replica of New Romney's lifeboat, which still operates, although the sea left the town 650 years ago. The model was loaned to the unit by Mr. Rabson, a local butcher. Also in the procession were the local fire brigade and a party of glee singers, members of the town's choral society.

Individuals in fancy dress also joined in and some of their efforts were so entertaining that producer John Gossage and Derek Twist decided to give prizes for the best and these were presented by actress Veda Hope, who plays Roger Livesey's wife in the film.

The sun shone, fortunately, for all these scenes, but two days later the weather broke. The unit was, however, quite prepared for such an emergency and immediately turned over to getting interiors in the courthouse. Lighting cameraman Harry Waxman, and the electricians, under chargehand R. Bond, turned the courtroom, which is a building of great historical interest, into a miniature studio; and completely adequate sound arrangements were improvised by Dicky Bird and his boom operator, Claud Hitchcock.

Zoltan Off to S. Africa

Equipment for Zoltan Korda's production, "Cry the Beloved Country," embarks by sea for South Africa today (Thursday). Korda, art director Wilfred Shingleton, production manager Jack Swinburne and lighting cameraman Bob Crasker will follow a fortnight later and the artists and unit go on July 23.

Shooting is due to start on July 31 at Ixopo, Natal. The unit will be there for four or five weeks and will then move to Johannesburg before returning to Shepperton Studios.

The story gives big opportunities to the American coloured actors Canada Lee and Sidney Poitier, and to the British coloured singer Edric Connor. Principal white part is played by Clive Brook.

Silent Power Success

A new type of "silent" mobile generator, made by Lang Wheels, of Uxbridge, was used for the first time on an actual production by the "Highly Dangerous" unit on location last week.

The generator, of 1,750 amps., has proved under test to be usable at 100 yards distance in open country, and much nearer where there are sound breaks. In this case it was used to light 100 sq. yds. of woodland at night, and sound mixer John Cooke, was, I am told, completely satisfied with the results.

James Mason's Next?

Producer Jay Lewis, who made "Morning Departure," tells me that he is now negotiating with James Mason for the lead in his next picture, the newspaper story, "Final Night," which is due to go into Pinewood on July 24.

He is also making preliminary preparations for another naval story, based on the exploits of HMS *Campbeltown*, one of the U.S destroyers that we acquired in the barter with America and which ended its career as a blockship in the St. Nazaire raid.

"Festival of Sport"

Burt Hyams has nearly completed "Festival of Sport" for Diploma Pictures. The film will introduce many sports stars demonstrating and playing the games at which they have become expert, and among international champions featured are cyclists Reg Harris and Van Steenbergen; runners Arthur Wint and MacDonald Bailey; footballers Roy Bentley, Ted Ditchburn and Archie Macaulay; the world champion woman archer, and tennis champions of four countries.

Folk dancing and other sports and pastimes are also included.

Harold Huth Starts

Harold Huth has started his production of "Mrs. Christopher," which is due at Pinewood this week.

The unit is as follows:—

Producer, Harold Huth; director, Marc Allegret; production controller, Arthur Alcott; production manager, Norman Spencer; art director, J. Elder Wills; set dresser, Freda Pearson; editor, David Newhouse; director of photography, George Stretton; camera operator, Bob Walker; first assistant operator, R. Morris; second assistant operator, T. Young; first assistant director, Basil Keys; second assistant director, Len Lee; third assistant director, Donald Toms; continuity, Margaret Taylor; sound mixer, John Dennis (or Stan Lambourne); sound camera operator, K. Rawkins; boom operator, D. Messenger; assistant boom operator, E. Daniels; stills, Charles Trigg; dress supervisor, Yvonne Caffin; wardrobe supervisor (men), Bob Raynor; wardrobe supervisor (women), Dorothy Edwards; make-up, George Blackler; hairdressing, Biddy Chrystal; property master, Bert Gaiters; construction manager, Harold Comben; property buyer, Frank Hobbs; publicity manager, Stuart Chant; floor publicist, John Huntley; casting director, Weston Drury, jun.

GATE BUSY AGAIN

"Lilli Marlene" Starts

THE Gate Studios at Elstree restarted production on Monday, when W. J. Gell, of Monarch, moved in with "Lilli Marlene," drama based on the well-known war song.

Bill Gell is producing, with Arthur Crabtree as director and Jack Asher in charge of lighting. Tom Conochie is production manager. Star of the film is the French actress/singer, Lisa Daniely.

The picture will be on the stages at the Gate for six weeks and there will be two weeks' location at Aldershot.

Grand National Unit

The unit now making Grand National's "A Tale of Five Cities" at Riverside is as follows:—

Producer, M. Wilson; director, Montgomery Tulley; production manager, Charles Leeds; first assistant director, Bob Asher; second assistant director, Jim O'Connolly; third assistant director, Colin Reed; continuity, Kathleen Sinnett; production secretary, Kathleen Hosgood; director of photography, Gordon Lang; camera operator, Ray Sturgess; focus, Len Newson; clappers/loader, Fred Cooper; make-up, R. M. Bonner-Moris; hairdresser, Ivy Emmerton; wardrobe supervisor, Amy Binney; editor, Maurice Reetes; first assistant editor, Peter Dunbar; second assistant editor, Bill Morton; art director, Don Russell; draughtsman, Norman Dorme; buyer, Jim Baker; still photographer, Laurie Turner; production accountant, Stanley Anger; director of sound, George Burgess; sound mixer, L. Bulkley; boom operator, Fred Tomlin; sound camera, A. J. Bale; camera maintenance, Terry Turtle; master carpenter, H. Roberts; master painter, R. Eversfield; master plasterer, W. G. Knapman; chief electrician, J. Axtell; property master, C. Hasler.

BRITISH PRODUCTION CHART

Studio and Subject.	Stars.	Director.	Lighting Cameraman.	Producer and Renter.	Weeks Progress on Stagfs	Weeks Progress on Location. (Weeks)
EALING—Ealing 6761						
"The Magnet"	Stephen Murray; Kay Walsh ...	Charles Frend	Lionel Banes ...	Sir Michael Balcon: GFD ...	5	4
ELSTREE (ABPC)—Elstree 1600						
"Happy Go Lovely"	David Niven; Vera Ellen	Bruce Humberstone ...	Irwin Hillier ...	Marcel Hellman: AB-Pathe	—	4
"Green Grow the Rushes" ...	Roger Livesey	Derek Twist	Harry Waxman	Phil Samuel:	4	—
GATE—Elstree 2080						
"Lilli Marlene"	Lisa Daniely	Arthur Crabtree ...	Jack Asher ...	W. J. Gell: Monarch ...	—	1
ISLEWORTH—Hounslow 2323						
"The Late Edwina Black" ...	David Farrar; Geraldine Fitzgerald	Maurice Elvey ...	Stephen Dade ...	Ernest Gartside: Independent FD	—	7
NETTLEFOLD—Walton-on-Thames 2414						
"Mrs. Drake's Duck"	Douglas Fairbanks, Jun.; Yolande Donlan	Val Guest	Jack Cox ...	Daniel M. Angel: Eros ...	2	4
"The Scarlet Thread"	Kathleen Byron; Lawrence Harvey	Lewis Gilbert	Geoffrey Faithfull	Ernest G. Ray: Butchers-Nettlefold	2	4
PINEWOOD—Iver 700						
"The Woman in Question" ...	Jean Kent; Dirk Bogarde ...	Anthony Asquith ...	Desmond Dickinson	Edward Baird: GFD ...	—	8
"The Clouded Yellow"	Jean Simmons; Trevor Howard ...	Ralph Thomas	Geoffrey Unsworth	Betty E. Box: GFD ...	6	7
"Highly Dangerous"	Margaret Lockwood; Dane Clark ...	Roy Baker	Reg Wyer ...	Anthony Darnborough: GFD	2	3
RIVERSIDE—Riverside 3012						
"A Tale of Five Cities" ...	Bonar Colleano	Montgomery Tully ...	Gordon Lang ...	Maurice Wilson: Grand National	—	2
SHEPPERTON—Chertsey 2211						
"The Mudlark"	Irene Dunne; Alec Guinness ...	Jean Negulesco	Georges Perinal	Nunnally Johnson: 20th Century-Fox	1	6
"Pandora and The Flying Dutchman" ...	James Mason, Ava Gardner ...	Albert Lewin	Jack Cardiff ...	Romulus: Independent FD	5	4
TEDDINGTON—Kingston 2181						
"I'll Get You For This" ...	George Raft; Coleen Gray ...	Joe Newman ...	Otto Heller ...	Romulus: Independent FD	5	4

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CHEATING THE CAMERA AND MIKE

Electrical Devices in Special Effects

BKS and ACT members were startled, deafened, and some of them half gassed at their joint meeting when John Gow and Frank George, both of Pinewood, demonstrated some of the electrical devices used in special effects, including a Bren gun and a fog generator. Owing to a breakdown in the arrangements, films and slides which had been prepared could unfortunately not be shown.

John Gow first explained that there were four sections included in special effects: mattes, miniatures, process projection, and stage effects. In most special effects there was some electrical device—a motor pulling a model or moving cloud plates, fog generators, weapons actuated by electricity, in the process projectors, cooling fans and pumps.

In the process projector accuracy of registration was often necessary between background and the foreground set. In the latest still-picture equipment no fewer than six movements were controlled by means of Selsyn or Magslip motors from the camera position: focus, vertical and lateral centering of the lens, and vertical, horizontal and circular movement of the picture. The size of slide has been increased to 5 in. by 4 in. permitting it to be traversed for effects such as clouds.

Similar controls are being developed for camera movements. Tracking, tilting and panning movements can be rehearsed, recorded in a manner which the speaker could not divulge, and the movements can thereafter be repeated exactly. An example of the value of such an effect occurs in moving matte sequences, where the movements of the camera in the studio must match those of the camera which exposed the matte.

Fluorescent "Ghost"

A problem faced in "The Golden Salamander" was that headlamps were required from a model car. A miniature arc was mounted in the car focused through the headlamp lenses. For the illusion of distant gunfire, 6-watt bulbs were used.

A system recently employed is the use of ultra-violet in conjunction with fluorescent paint. This was the method used in "Hamlet" to produce the luminous eyes of the ghost. The speaker suggested that there was a wide scope for the employment of this system—for instance, in a submarine sequence where knobs and dials were coated with luminous paint.

Frank George first discussed the production of fog—an illusion continually in use during "Hamlet." The method used was the heating of oil to the point of vaporisation; if made too hot it produced blue smoke. He explained a portable fog generator in which diesel oil was sprayed under pressure from a bottle of CO_2 upon an electrically heated plate maintained at a temperature of 700 deg. F.; the heater consisted of a 1 kW. 230 v. fire element run at 115 v. A demonstration of the device proved it to be capable of projecting a stream of fog half-way down the hall.

Where a greater quantity of fog is required, a larger generator is needed; the speaker explained two types, both working on the same principle as the one demonstrated. By means of Dricold, at a temperature of −72 deg. C., the fog was caused to sink, producing realistic effects.

To produce the illusion of the flashes from the muzzle of a gun oxy-acetylene was ignited by means of a spark. Mr. George demonstrated a Bren gun, which was connected to cylinders of oxygen and acetylene, the mixture being ignited by a spark-plug built into the muzzle and energised from an ordinary motor-car coil ignition system.

Adjusting Flicker

Adjusting the gas cylinders to produce the required mixture, the speaker demonstrated the results, with quite startling effects, since both noise and flash closely imitated the real thing. The system had, he said, been used for all types of guns, up to naval cannon.

A problem in back projection was, he continued, the intermittent illumination of the screen, which made it difficult for the cameraman to judge the balance of the foreground lighting. A device had been produced, attached to the camera view-finder which, by means of a synchronous motor, rotated a shutter in synchronism with the projector shutter, so producing the same degree of flicker over the whole scene when viewed from the camera.

RCA had demonstrated to the SMPE a device for stimulating the flicker of firelight. A similar system had been made up by the sound department at Denham. It consisted of a photo-cell which controlled a thyratron, the latter having a capacity of 2 kW. The photo-cell was exposed to the light of the practical fire, and controlled lighting units in sympathy with the flames. Actually it would be desirable to use half-a-dozen such circuits for different angles.

A frequent problem was the remote control of models. The speaker explained a system in which the model roadway was sprayed with metal, the surface divided in two by a razor cut. The resultant contacts could be used either for driving the car—a system much preferable to the usual piece of string—or for controlling the steering.

In the discussion R. H. Cricks referred to the effect often seen even in features, of wheels standing still or going backwards; he suggested that if the flicker type view-finder were used, the camera operator would be able to see such a fault and to modify the speed of the wheels to correct it. Mr. Gow agreeing with the suggestion, recalled that he had once reduced the number of spokes in the wheels of a cart in order to avoid the effect.

Follow-Focus

Replying to another questioner, Mr. George stated that experiments had been made with automatic follow-focus, which in one scene had permitted a track from 27 ft. to 9 in., the object remaining in focus. George Hill pointed out an objection to the proposal to pre-record focus—that artists did not always keep to their limits.

Referring to the fog generator, H. Benson stated that he had made a successful device for location, using a Calor gas cylinder.

W. S. Bland suggested that the effects of flicker from a fire could be recorded on magnetic tape, and reproduced with exactitude, but Mr. George objected that a practical fire was generally necessary. Replying to Mr. Bland, Mr. Gow enlarged on the method of producing cloud effects, which called for two, three or even four plates, all moved one against the other.

The Sensitometric Aspects of Process Photography

TWO papers in the March issue of the *SMPTE Journal* relate to different aspects of special effects.

At the meeting reported above, technicians of the Rank Group hinted at a method of pre-recording camera movement in order to ensure accuracy of repetition, chiefly with the object of introducing camera movement into special effects. Details of a similar system are now presented by MGM Studios. In this system the cameraman tilts and pans his camera to follow the action; a record of the movement is made on two tracks upon a disc. To repeat the movement, the signals from the disc are amplified and fed to a differential drive system.

The system has also been adapted to follow-focus, enabling a change of ten to one in focal distance to be achieved.

The Motion Picture Research Council has undertaken an investigation into the sensitometric aspects of process photography. Three aspects are considered: tone distortion due to the fact that the camera exposure must favour the foreground action; density and contrast variations on central and off-centre areas of the screen; and flare due to stray light reaching the screen.

The over-all gamma of the process plate must be well over unity —1.31 is suggested—and it must be fairly heavily printed. Screens being hand-made vary considerably in regard to transmission, which ranges from 55 per cent. to 70 per cent., and in regard to diffusion. The transmission of the screen is commonly varied in proportion to its size, because of the limitations in light output of the projector.

ABPC Elstree studio projectionists on their outing to Margate. Back row: Les Parham, W. Wayland, F. O'Donoghue, R. Bruce, E. Sturgis, B. Knott. Front row: R. MacCoughlan, T. Simmonds (chief), J. Michell who has been at the Elstree studios since 1928, the days of BIP. Frank Binney, who also started at the studio in 1928 but is now with Pathe, shot this photograph

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  Such an advantage can mean quite a lot of studio lighting economy, plus the added facility to shoot at smaller apertures to gain an increased depth of field.

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INTELLIGIBLE SPEECH: Clarity Before Realism

By R. HOWARD CRICKS, FBKS, FRPS

IT is generally the exhibitor or the projectionist, or even the audience who gets the blame for poor sound reproduction—in particular unintelligible speech in kinemas. If an exhibitor complains that his patrons cannot understand the dialogue it is generally assumed that his reproducing equipment is obsolete, that the fader is wrongly set, or that the audience is at fault because it fails to understand the English of Denham or Elstree.

It is not the purpose of this article to compare the respective merits of British and American annunciation. My present complaint is addressed to the recordist. The standard of sound quality represented by the simple requirement that speech shall be easily understood is not very high; why then is it that so many films are marred by difficulty in understanding what is said?

Throughout two-thirds of the length of a film I saw recently two principal characters conversed in little more than a whisper. After straining for some time to understand the dialogue I eventually gave it up and sat back for the rest of the film, relieved from utter boredom only by the artistry of Jack Cardiff's Technicolor. I am convinced that the difficulty of following the story was the major reason for the unflattering comments I heard after the show.

The obvious retort is that the projectionist should have run the film at a higher fader setting; but the intensity of sequences where other characters appeared was perfect—why, therefore, should the projectionist be expected to alter his fader (and, incidentally, bring up the ground noise) just to defeat the aims of the director? Nor can the lack of intelligibility be laid at the door of the sound system, which was Westrex, nor of the acoustics, which in this particular kinema are excellent.

Naturally, it was the director who was to blame. But it is the recordist's responsibility to ensure the quality of sound, and he should have been dissatisfied and, failing representations to the director, should have made protests at a higher level.

Just to make things worse, much of the whispered dialogue was confused by background music. Almost invariably I find background music—as distinct from story music—irritating; but when it mars the intelligibility of speech it is worse—it is unforgivable.

At a recent BKS meeting Ernest Irving and Muir Mathieson defended background music against my suggestion that, while the speech might be quite distinct in the preview theatre and at the première, by the time the film had reached its twentieth run the speech was inevitably rendered indistinct. Louis Levy, speaking recently on the radio, agreed that many people found background music distracting and he admitted also that if the track were reproduced at a wrong level the music could become obtrusive.

None of these speakers attempted anything but a negative defence of background melody. Why in a straight play should anybody want to hear music marring the dialogue?

Do British producers ever read the American trade Press? Apparently not, for the one reiterated complaint of British films is that American audiences cannot understand the speech. Even if British audiences are expected to put up uncomplainingly with unintelligible dialogue—whether due to whispering, to indistinct enunciation, or to background music—surely the pressing need for American release should induce producers to ensure at all costs that dialogue is as clear as is humanly possible. Clarity must come before realism or artistry.

CANCELLING HARMONICS IN MAGNETIC RECORDING

A SOURCE of ground noise in magnetic recording systems is residual magnetism or stray fields or currents through the magnet heads, the effect of which is to cause zero shift and introduce even harmonic distortion. The same fault can be produced if the HF biasing current is asymmetrical.

A simple method devised by RCA to avoid such faults, and described in the *RCA Review*, is to apply a DC magnetising signal, whose magnitude and polarity may be adjusted to bring the recording head into a neutral state. The system is styled the "harmonic null" circuit.

A curve showing the effect of the system when employing red oxide tape, demonstrates a reduction of second harmonic to less than 0.5 per cent. for a harmonic-null current of just over 2 ma.—half the average value of harmonic for the unbalanced circuit. Curves show also corresponding gains on other harmonics, with the result that the signal-to-noise ratio is increased by 2 or 3 db.

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MAGNETIC RECORDING PUTS QUALITY UP AND COSTS DOWN

Two New Gaumont-Kalee Equipments

THE application of magnetic sound recording to film production can be regarded as a revolutionary development offering a number of advantages over the conventional methods of photographic recording.

This system has been exhaustively tested over a period of six-weeks' location work on current Ealing Studios production. Excellent sound quality is reported, quite apart from the considerable savings in the cost of film stock and processing.

The recording medium is magnetic 35-mm. film with normal perforations. What are the many advantages claimed for this method of recording? Seven major points can be cited:—

(i) There are no developing charges.

(ii) There are no printing charges.

(iii) The stock can be used again and again; therefore, there are no wasted takes, and once the magnetic recording has been transferred to the master negative from which release prints are made, the film is "wiped" by the erasing head and is then used again.

(iv) Short lengths and odd lengths can be joined together and used for recording without the risk of "plops" which occur with ordinary photographic recording.

(v) The sound is played back immediately *whilst recording* (delay, 20 milliseconds), thus there is no waiting to hear rushes.

(vi) There is none of the cumulative distortion inherent in photographic recording; as there is no processing, consequently overall sound quality is improved.

(vii) There is absolutely no deterioration with age or handling, hence none of the increasing background noise common to photographic prints.

Film More Durable

Furthermore, as the film is never "wetted" in developers, etc., it is never "green," in the photographic sense, and is therefore more durable. The recordings are as permanent as photographic recordings, and run less risk of accidental damage, and handling is also much easier—no dark rooms are needed and the film is loaded on ordinary spools without magazines. Acetate safety film base is used, and there is no "static" problem.

Signal-to-noise ratio is 10 db. better than photographic recordings, without special aids to noise-reduction, and a greater volume range is therefore obtainable without the need for compression.

Overall frequency response is at least equal to that of any photographic recording; the high-frequency response is clear-cut and free from sibilance troubles found in photographic recording with defective processing.

The use of 35-mm. perforated film stock running at the standard speed of 90 ft. per minute, in machines with normal methods of constant film-speed stabilisation, gives performance equal to any photographic recording in respect of absolute synchronism with picture, and freedom from "wow" and "flutter."

Standard editing machines, as used universally in cutting rooms, can be adapted for playing magnetic tracks, and the film can be cut and spliced on standard film joiners without difficulty.

In dubbing studios where films are re-recorded in languages other than the original, magnetic recording offers considerable advantages, both from the point of view of economy and of perfect synchronisation. The dubbing director can hear the results whilst the recording is taking place; unsatisfactory takes can be erased without stopping the recorder; and scenes can be recorded in perfect synchronisation.

Types of Equipment

Two different types of Gaumont-Kalee "Ferrosonic" sound recording and reproducing equipment have been developed. In order not to make too revolutionary a change in the technique of recording sound, these have been based on similar types of photographic equipment.

The first type of "Ferrosonic" magnetic equipment has been based on the well-known "follower-head" type of re-recording photographic apparatus, whilst the second type of "Ferrosonic" magnetic equipment has been based on the equally well-known photographic sound recording camera.

The first type of "Ferrosonic" apparatus is intended more particularly for stationary use in the studio, whilst the second type of apparatus is suitable for studio use and, in addition, for location work.

The recording and playback takes place on the flywheel drum, so that the best possible conditions for constant film speed are obtained, resulting in a flutter content of less than 0.15 per cent. and a degree of wow of approximately 0.06 per cent.

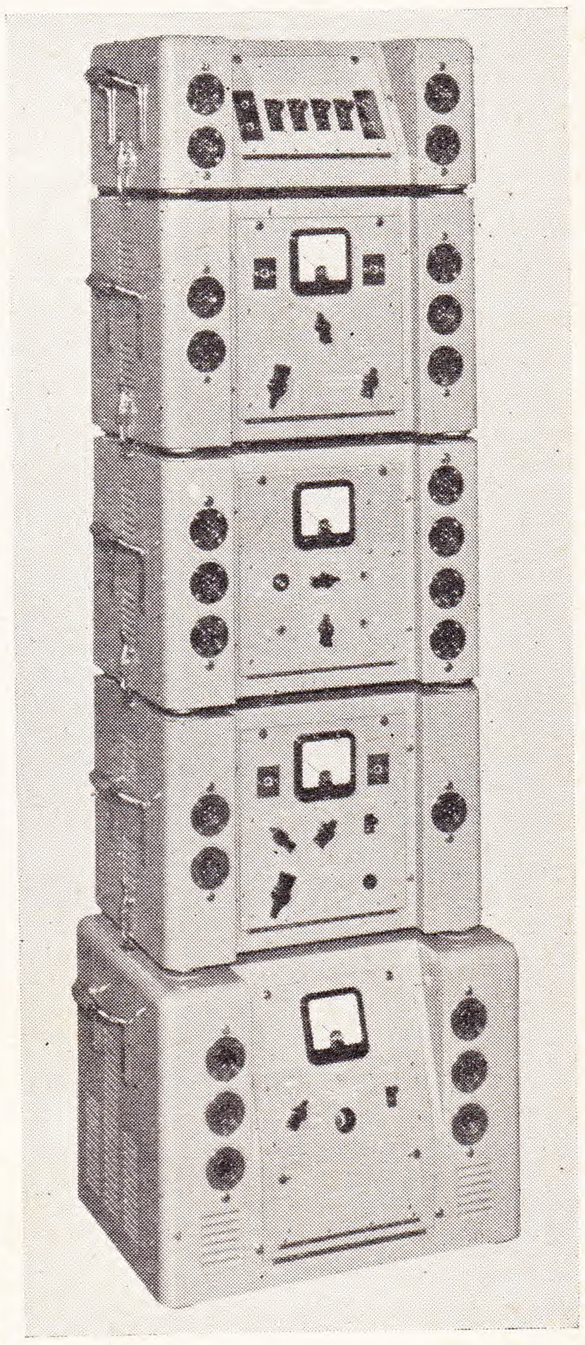
A special method of mounting the magnetic heads has been evolved by which use is made of the elasticity of the film in order to obtain the best possible contact between the film and the magnetic heads whilst completely avoiding all oscillations of the heads.

The sound track on the film is approximately 6-mm. wide and, if desired, two tracks can be recorded on the same film. The heads are well screened against induction and the playback head is additionally equipped with a hum-bucking coil.

Both types of "Ferrosonic" equipment are provided with a wiping head which erases any previously recorded signals from the film immediately prior to the recording taking place whilst monitoring from the playback head takes place one-tenth of a second after the recording has been made.

Amplifier and Supply

The amplifier consists of a stack of six units which can be fitted one above the other. The power pack is located at the bottom of the stack and is normally fed from a 220-volt AC mains supply, but can be readily adapted to operate on other AC voltages. Above the power pack is the monitor amplifier, and above this a special unit providing a high-frequency current of approximately 50,000 cycles per second for feeding the wiping head and the bias current to the recording head.



The Gaumont-Kalee "Ferrosonic" power supply, amplifier, equaliser and stack

The recording amplifier is positioned above the super-sonic supply unit, and on top of this there is an equaliser network with the same facilities normally available for sound-film recording.

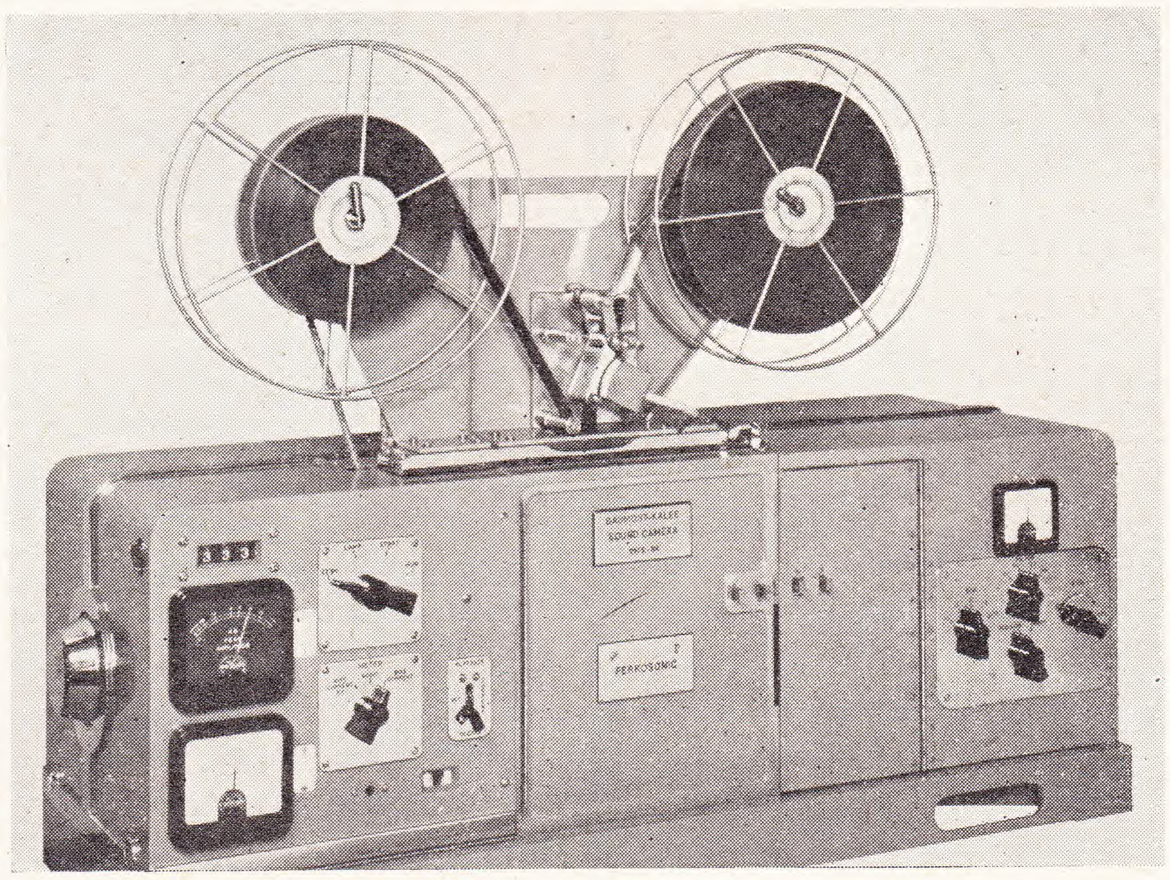
The sixth and final unit in the stack is the playback amplifier, which is so designed that it can be mounted on a wall near to the recording apparatus, if desired, as an alternative to being fitted on the top of the stack.

The super-sonic supply unit contains special means for eliminating second harmonic distortion and, as a consequence, a very high signal to noise ratio is obtained without distortion. The ratio is approximately 60 db., weighted in accordance with the CCIF recommendations of 1934.

The input impedance of the equaliser is 500 ohms (balanced) and requires an input level of 30 mV for full modulation of the sound track at 1,000 cycles per second.

The recording amplifier is provided with means for compression. The compression factors are 1 : 1.5; 1 : 2 and 1 : 6. The overall frequency response from 50 to 9,000 cycles per second is within plus/minus 2 db.

Mixer Type 114, and Microphones 492 and 493, as supplied with the Gaumont-Kalee standard (photographic) recording channel, are used with the "Ferrosonic" recorders for normal studio recording.



The Gaumont-Kalee "Ferrosonic" Type 94 magnetic recording sound camera

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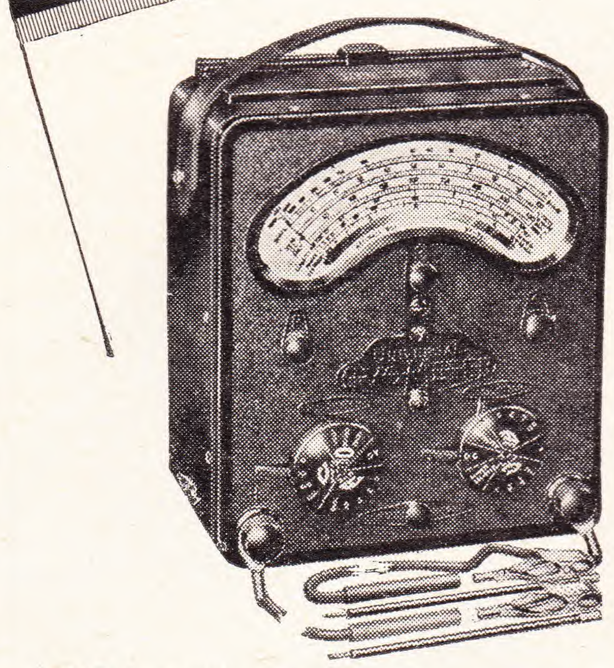

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ECHO-FREE ROOM

It Measures Arc Lamp Noise

GREAT accuracy in the measurement of noise levels is claimed for a new echo-free room recently installed by the General Electric Company at its Wembley research laboratories. One of its uses is to measure the arc noise from the GEC 150-ampere double-negative high-intensity arc lamp, providing data which will help the designers to produce an equipment which will be trouble free on the studio floor.

The primary purpose of a room of this type is to simulate free-space conditions without the disadvantages of working in the open air. The desired effect is achieved by designing the walls of the room to give the least possible reflected sound and to eliminate all echoes.

"Fibreglass" Wedges

The first echo-free room to be used successfully in Great Britain was built by GEC in 1929. This was made by lining the sides with surgical cotton wool, and the company's acoustic engineers were able, in 1932, to produce a microphone which is still in use at the National Physical Laboratory as a standard for the measurement of sound pressure.

In 1939 work on acoustic measurements was discontinued and the echo-free room was dismantled and the space used for war-time research. After the war the need for an echo-free room again became apparent and another room was designed by the laboratory engineers.

The size of this new room is approximately 18 ft. by 13 ft. by 13 ft. before lining, and the walls, floor and ceiling are covered with nearly 3,000 "Fibreglass" wedges, each 3 ft. long. These wedges are not supported by the usual "eggbox" construction but are in a welded wire frame arranged so as to produce the minimum sound reflection.

Unusual Door Action

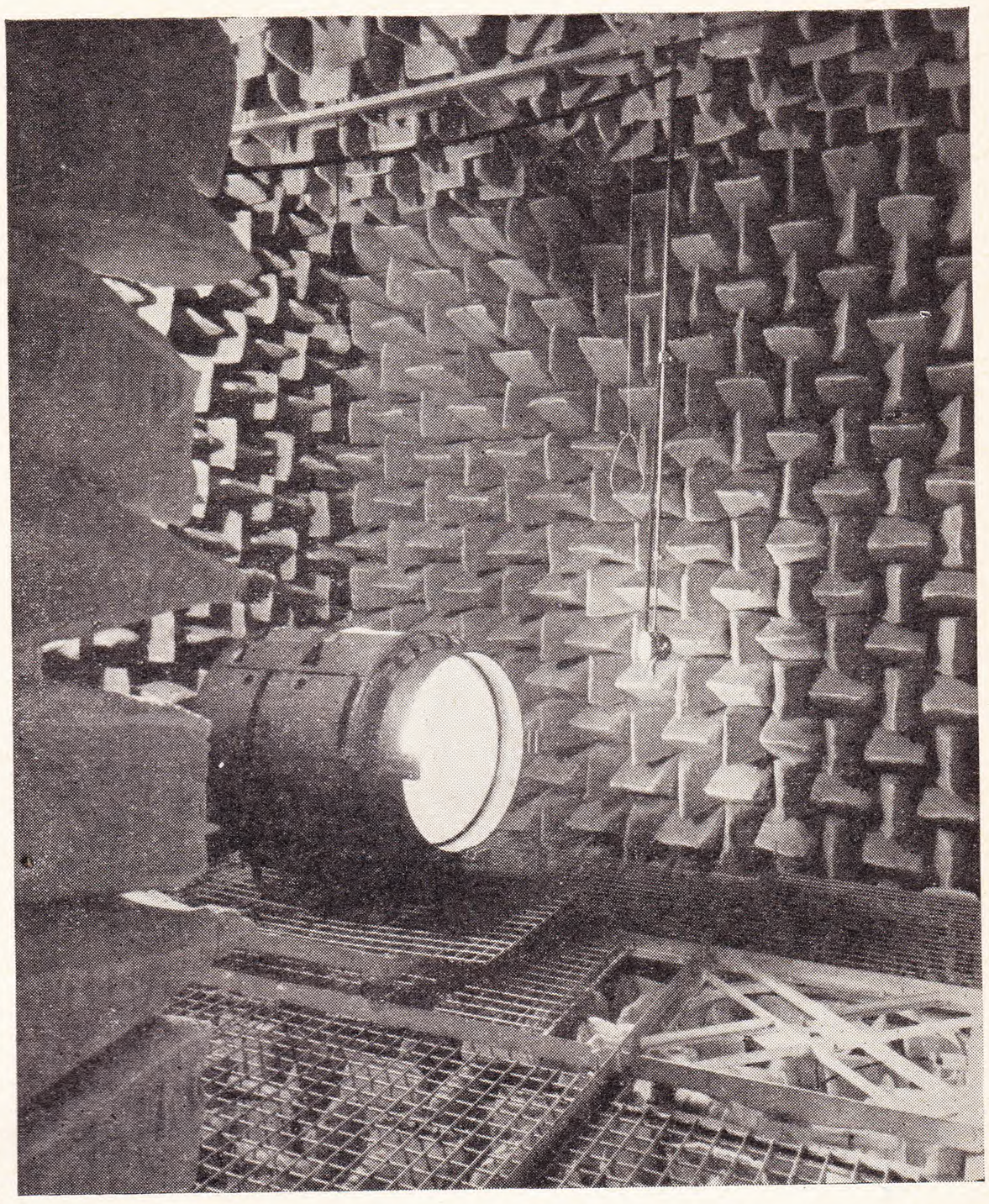
The door, which is also covered with wedges, presented an unusual engineering problem which has been solved very ingeniously. Although the door opening is only 2 ft. 6 in. wide the attached wedges are 3 ft. 6 in. deep overall: thus the tips would become damaged if the door was opened and shut in the usual way. To circumvent this the hinges of the door are designed so that it moves at right angles to the wall of the room during the final stage of closing. This is done by guiding the door in tracks at right angles to the wall.

For obvious reasons a window could not be included in the room, but it was found that sufficient ventilation for personnel making subjective measurements could be obtained by means of a simple air-conditioning system. The ventilating duct, which opens into the room just below the ceiling, has been made as long as possible and is lined with absorbent material so that noise cannot enter the room from its outer end. When measurements of extreme accuracy are being made, the outer end of the duct can be closed.

Measuring All Round

Inside the room two overhead tracks at right angles are provided for moving the microphone carriages. These have automatic brakes so that a microphone cannot move during the progress of a lengthy series of tests. Beneath one of these overhead tracks is a "railway" track ending in a turntable. This enables heavy objects to be wheeled into the room on the tracks through the door, revolved on the turntable and suitably positioned in the room. Although useful for this purpose, the turntable was primarily provided for measuring the sound round an object, for example, measuring the polar response of a microphone. Means are provided for rotating the turntable and for determining its angular position accurately from outside the room.

The floor of the room is made of a wire mesh which is virtually "transparent" to sound, but when the greatest accuracy is required this mesh is removed, together with most of the railway track and supporting posts.



The sound-proof room, showing the "Fibreglass" wedges, in use for measuring the arc noise from a GEC 150-amp. double-negative high-intensity lamp of a type widely used in British studios

Shepperton's New Power House

LATEST up-to-date technical equipment to be available at London Film Studio, Shepperton, already well equipped in every department, is that a new power house opened to replace existing arrangements.

Built under the supervision of Chas. Hillyer, chief engineer at the studio, the new power house has a modern generating plant, completed in May, which has full automatic control and a total output of 3,720 kW.

The equipment consists of:—

2,000 K2 synchronous electric: 1,720 K2 diesel electric.

34,000 amps. at 120 v. 3-wire D.C.

Six generator units:—Two 1,000 kW.; two 500 kW.; one 415 kW. and one 315 kW.

The power is connected to stages by overhead aluminium busbars with a rated capacity of 24,000 amps. to large stages, and 18,000 amps. to small stages. It is connected to the large silent stage by underground cable, rated 16,000 amps.

All production services in the stages are DC, operating from Hewittic rectifiers when the power house is not operating. The power house can operate entirely independently of outside sources up to a capacity of 1,720 kW.

Also under Chas. Hillyer's jurisdiction at Shepperton is a new, modern boiler house equipped with a modern fully automatic oil-fired plant situated in a central boiler house of up-to-date design. This services all domestic heating and processing requirements. Each stage is arranged with services direct from the boiler house for use on production for steam and hot water effects.

The plant consists of three Danks' Super Economic steam boilers with Clyde oil-firing equipment, each boiler being rated at 16,000 pounds steam at 100 pounds pressure. The steam is conducted by high and underground levels to all buildings.

Additional to these facilities, all stages at Shepperton are installed with plenum and extract ventilation systems, giving four air changes per hour, ensuring good conditions for photography. Gas, hot water, cold water and steam services are "ring mained" round all the stages with outlets at ten points. Compressed air from a central compressor is available at 80 lb. pressure in all buildings and stages for paint spraying, etc.

PROCESSING IN FOUR SECONDS

A DEVICE capable of developing, fixing, washing and drying still pictures on 35-mm. film within four seconds is described in the *SMPTE Journal*. Development occupies four-fifths of a second, fixing 1.7 seconds, washing three-tenths of a second, and drying 1⅕ seconds.

The secret operation of the system is that by means of air pressure the circular image on the film is sucked almost into contact with a curved surface: the solutions are applied within the five-thousandths gap between the film and the metal. First the developer is forced into this narrow space, its speed assuring complete replenishment before it becomes locally exhausted. Next hypo, then washing water, and finally air are admitted by means of valves. Within a hundredth of a second the film is pulled down to bring a fresh frame into position.

The whole of the processing gear, complete with time switches, heaters and plumbing is contained in a block weighing less than 3 lb. The device also includes apertures for the exposing and projection of the image.

Romulus Cast Additions

Margot Grahame and Greta Gynt are recent additions to the cast of the Romulus thriller, "I'll Get You For This," starring George Raft and Coleen Gray, now on the floor at Warner's Teddington Studio.

Since its return from location in Italy the unit has been getting an average of over three minutes a day screen time and is at least a day ahead of schedule.

IN A NEW LIGHT

Equipment to Meet Demands of High-Speed Kinematography

TWO Mole-Richardson studio lighting units, the Compact Source Flood, MR Type 461, and the MR Type 356 Cine Flash attracted the interest of studio technicians when prototypes were shown at the exhibition of studio equipment arranged for the BKS studio visit last year.

The MR Type 461 which is now available for hire has proved its usefulness on a number of colour productions, including "Captain Hornblower." The Cine Flash was primarily designed to meet the demand for a light, compact and portable source of illumination for high-speed kinematography at speeds between 1,500 and 3,000 pictures per second, but it has been used for a number of other specialist jobs.

The MR 461 comprises a lamp-head and a separate grid resistance. The lamp-head consists of an outer housing with a removable inner chassis carrying the lamp optical system, impulse striking circuit and back panel. The grid resistance unit contains the ballast resistance and the electrical contactors, relays and other components for controlling the lamp. The grid may be used separately, but it is shaped so that it may be mounted on the lamp stand. The lamp may be ignited and extinguished from a small hand controller on a flexible lead.

The lamp-house has been designed to operate with a BTH Mazda double-ended 5-kW. mercury cadmium compact-source colour corrected lamp, but for a lower light output the lamp may be replaced by a 2.5 kW. lamp. Either lamp will operate from the same grid resistance without any external change of connections. The 5 kW. lamp, however, is the preferred type owing to its superior colour rendering properties. Operating currents of 5 and 2.5 kW. lamps are 70 and 35 amps respectively, and the starting currents are 130 and 65 amps.

Light Collection

Light is collected from the lamp by a metal rifled reflector and the required beam spread is obtained by a segmented diffusing glass. The output may be dimmed if desired by the standard type of MR venetian blind motor-operated shutter which can be remotely controlled in the usual manner either from a standard controller or from a special lamp controller.

A circuit producing an impulse voltage of 30 kv. ensures arc ignition under all conditions of lamp temperature.

The delays in warming up and restriking usually associated with high-pressure mercury vapour lamps have been minimised. The starting resistance is reduced automatically by a relay when the lamp voltage reaches a definite value to ensure that maximum current is maintained for as long as possible during the starting period. The maximum delay, which occurs in warming up from cold, is under four minutes.

When the lamp is first struck, the red pilot lights on the side of the housing are illuminated. These lights, which are extinguished as soon as the lamp gives its maximum light output and correct colour are visible from all directions around the lamp.

Rapid Re-ignition

When the lamp is switched off it can be re-ignited immediately by the high-voltage impulse, or if it has been switched off for only one minute, full light output will be regained without delay.

The light output is rated at 5 kW., approximately twice that of the MR 40 Duarc. It produces a maximum intensity of 330 fc at 10 ft. as compared with 165 fc for the Duarc with an equal spread.

The MR 461 is particularly suitable for backing illumination, and due to the high light output as compared with a Duarc only half as many units will be required with a consequent saving in labour for rigging the set.

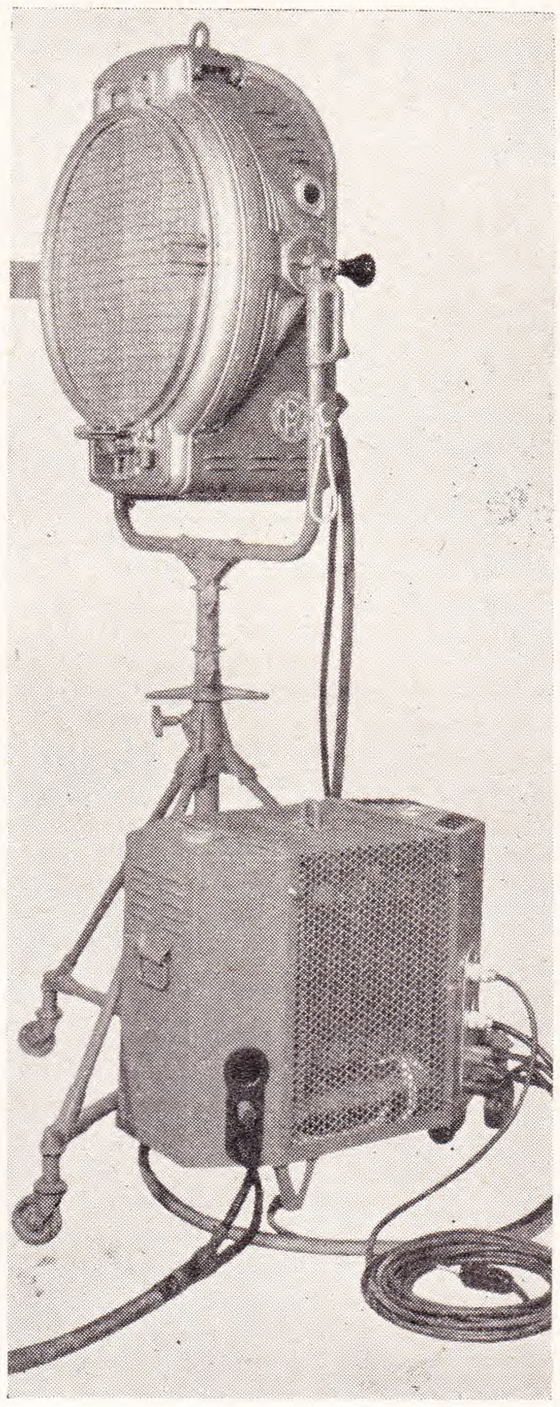
The light source of the Cine Flash consists of a specially designed Mazda mercury cadmium compact-source lamp with a continuous rating of 1 kW. The lamp consists of a spherical quartz bulb containing two tungsten electrodes spaced several millimetres apart between which an arc of high brightness operates. The chief feature of the lamp is the provision of special electrodes which enable it to be flashed at a very high power for short periods. The lamps are relatively robust and have an average life of 500 hours at their normal rating.

The lamp is mounted along the axis of a metal parabolic mirror. The necessary degree of uniformity of illumination in the spot is obtained by using a front diffusing glass on the lamp-head, and two types are available to give either a narrow or wide angle of divergence.

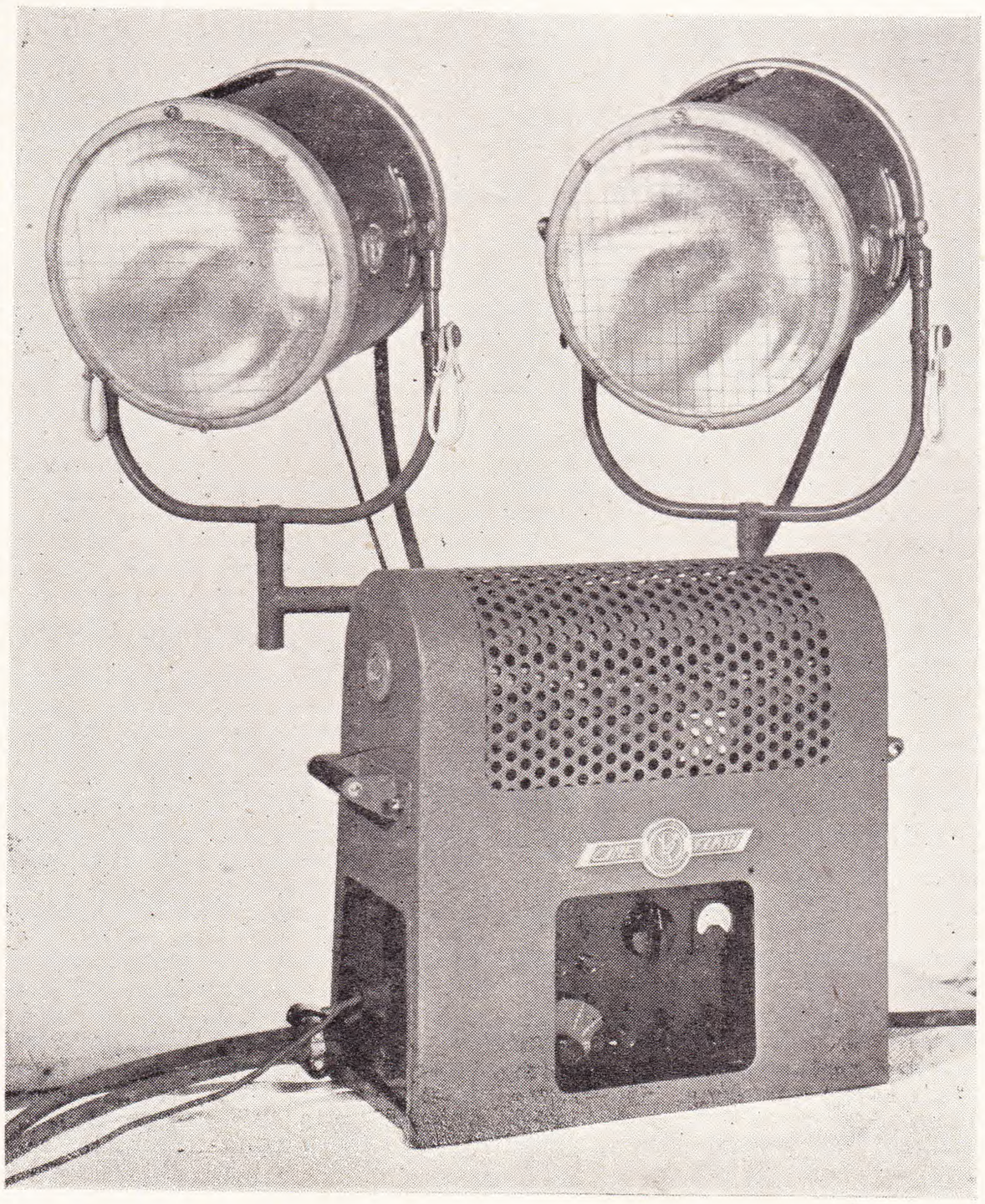
Double or Single Lamps

Two lamp-houses are normally operated in series from a single control unit, to give maximum light output from a given supply current. The standard control unit is intended for operating two lamps in series from a DC supply of 200 to 250 v. A unit for operating a single lamp from supplies of either 110 or 200 to 250 v. DC is also available.

In order to avoid stroboscopic effects due to cyclic variation in light intensity from the discharge lamp, the lamp must be operated from a DC supply. However, a separate 3-phase mercury arc rectifier has been designed to operate the unit where only AC is available. The rectifier unit is arranged to carry the control unit on top of it and it is mounted on castors. A smoothing filter is provided in the rectifier to ensure freedom from ripple. The rectifier transformer is tapped for 50 cps AC supplies of 400, 415, 430 and 440 v.



The Type 461 compact source floodlight



The Cine Flash primarily designed to meet demand for portable source of illumination for high-speed kinematography

Exposure Measurement

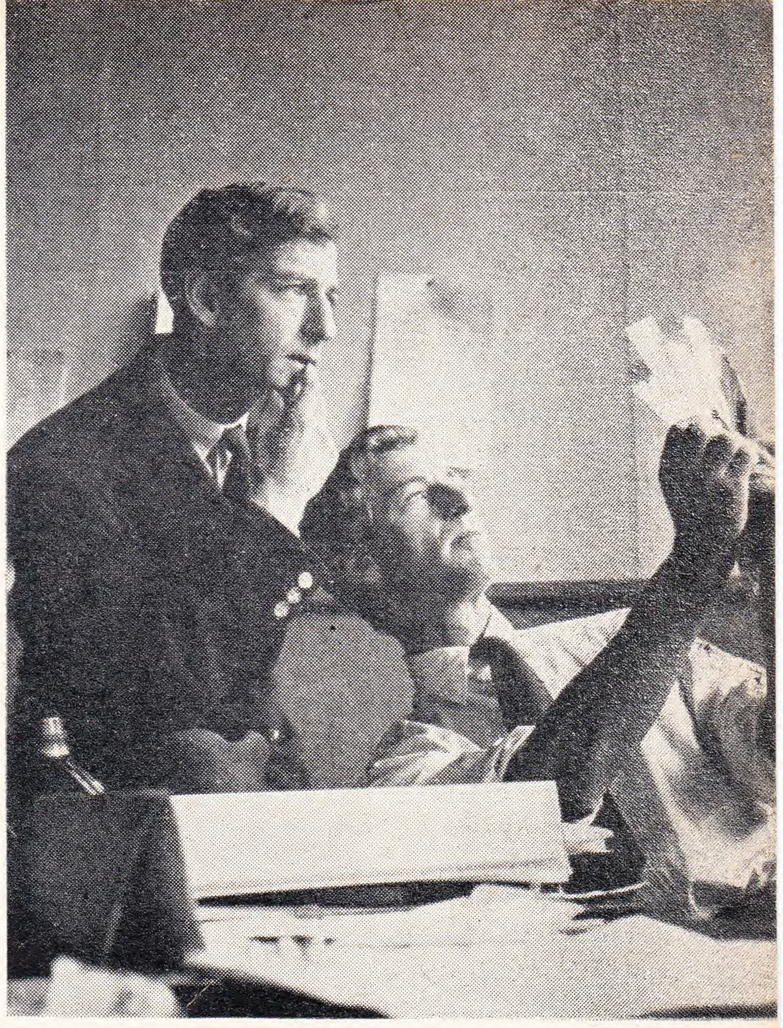
The exposure may be measured with the normal type of exposure meter or it may be obtained from a series of preliminary trials with the lamps at various distances from the subject. Subsequent exposures may then be estimated by measurement of the distance from the subject.

Each lamp-head is designed to illuminate a circle 10 in. in diameter at a distance of 4 ft. from the subject with an illumination at the edge of not less than 70 per cent. of that at the centre using the standard type of front glass.

The spots from the two lamps can be arranged either side by side or overlapping depending on the area to be covered and the required light intensity.

Construction work has started on African Film Productions' new 30-acre studio at Parkmore, Johannesburg. The first section the laboratory block, will be completed by the end of the year, and the studios are expected to be ready for film production by 1952.

BEWITCHED, BOTHERED *AND* BEWILDERED



Independent production today is little but blood, toil, sweat and tears—with the emphasis on tears,

Say JOHN AND ROY BOULTING

WE have always yielded to the temptation to speak our minds. The sin of outspokenness is not without virtue. It brings us personally into bad odour, but has a way of clearing the air for others. Rather naturally, then, we accepted the KINE.'s invitation to indulge in some reflections and comments upon our industry as we find it today.

If we focus attention upon the position of the independent producer, it is for the not very surprising reason that, as independent producers ourselves, we have some knowledge of his situation and real concern for his future.

At no time has the independent producer been more dependent or less free. A paternalistic government has embraced him with words and left him to beg for a meal. Once again the betrayal has been accompanied by the kiss. Today the money changers sit in the temple, but it is they who wield the whip.

If all this seems a bit obscure, look at the situation for yourself. To get an independent production on the floor it is not just a question of agreeing story and terms with one of the major groups. Today one is caught up in a process more complex and infinitely exhausting. One invests in a story and works on a script and having done so, that is the end of any creative endeavour for quite a long while.

Nightmare Montage

One ceases to be a producer; instead, one becomes a promoter; and for that sort of thing few of us have either the talent or the inclination. One's life becomes a montage of interviews to which there is a sound-track accompaniment of nightmarish phrases such as "front money," "middle money," "end money," "completion guarantees," "shares of profits" and "discounted guarantees."

If this appears to be artistic licence, ask any independent producer who has wandered, at first forlornly and ultimately frantically, in the maze of modern film finance. We know of one independent producer who was obliged to negotiate and complete about seventy contracts, all concerned with finance, before he was allowed to start shooting on a modest budget picture. To say that this sort of thing is good for the industry, that it is being "organised" on a business basis, is sheer nonsense.

The function of a producer is to produce. Today production represents only a small fraction of his total activities. What is the effect of all this non-creative effort? It is to ensure that the distributor and the theatres shall get British films; in the case of the distributor at the minimum of risk, and in the case of the exhibitors at no risk at all.

If It's Profitable

In the event of the film proving profitable, by the time the producer has distributed shares of profits due to the different parties helping to finance the film, the distributor, the Film Finance Corporation, the completion guarantors, and any other interested bodies, what remains is all too frequently a meagre return for his investment of money and effort; of blood, toil, sweat and tears. And as things are, the emphasis is very much on tears.

In the event of loss every financial interest has priority protection before the producer himself. Guarantees exist for the strong and not for the weak. The armour of "orthodox" finance envelops the mighty. The humble stand naked and are expected to feel ashamed.

These are statements. What of the facts? Who provides money and upon what terms? Let us glance briefly at this moneylenders' paradise, which is now the British film production industry.

First, you encounter the distributor. You talk to him persuasively and at length, give him a copy of your scenario, or the novel or play you have purchased, then leave him and return to your office and twiddle your thumbs while awaiting his decision. It may be days, perhaps weeks or even months before you have any response.

Then one day your 'phone rings to stir you from the apathetic coma into which you have fallen and the distributor tells you that he has consulted innumerable colleagues, and subject to your agreement to certain conditions he will provide you with 60 per cent. of the cost of your production. The conditions? "Well, come round and have a chat. I can spare you ten minutes on next Friday week."

For the next ten days or so you live in a state of quivering suspense and hopeful impatience. Then you have your meeting. The money will be forthcoming in the form of a guarantee which you will be obliged to have discounted at a bank. It will be necessary for you to make the film in the studio financially associated with the distributor and upon non-competitive terms. You will be expected to use in the principal rôles Sally Sawdust and Tommy Torso, two artists utterly unlike the characters you have in mind, but who are under contract to the group of which the distributor is an important element. And, of course, the film will play on the circuit of theatres owned by the group itself.

It will thus be seen that for this guarantee of 60 per cent. of the cost the "independent" producer will be occupying studios which might otherwise be dark, employing artists and incidentally technicians who might otherwise be a burden upon the group's finances, supplying the distributor with a British film to rent to his own and other theatres at a fee of 20 per cent. of the gross revenue (after the deduction of entertainments tax), and the theatre circuit with a film with which to meet its quota obligations and, let it be hoped, improve its balance-sheet.

Paying Twice Over

For conferring all these benefits upon the strong, the poor little producer will only be expected to PAY, say, 20 per cent. of the profits to the distributor, who will already have received the fee referred to above, the share of the profits being in respect of the guarantee of 60 per cent.

All these factors have been discussed and agreed at a series of meetings held over a period of many weeks or even months. Budgets have been produced and modified; the script has been read, re-read and rewritten; dates have been proposed, deposed and finally imposed; the cast has been selected, rejected and eventually elected (ah, the blessings of democracy when related to creative work!) by a solemn com-

Continued on page 4

BEWITCHED, BOTHERED *AND* BEWILDERED—*continued*

mittee comprising the production executives of the group.

At any rate, the agony of interminable and repetitive discussion has yielded a distributor's guarantee, and with that in your pocket you visit a banker. In all probability he won't be your own banker because he gave up years ago having anything to do with films. So you confront a new face in a new place. It is polite but reserved. It stresses the enormous risks of finance in relation to films. Then with an air of becoming benevolence and a suggestion of reckless daring, it intimates its willingness to advance you moneys on what is virtually a gilt-edged cert at the customary rate of 4½ per cent. interest. Your emotional display of gratitude is countered by a reminder that you will naturally have to produce evidence of your ability to secure "the end" money together with a guarantee of completion. Ah! yes, the end money.

Frightfully Nice People

Well, you've been having talks on that very subject for the last twelve weeks (or was it months?) with the Film Finance Corporation. They've been frightfully nice to you. Frightfully! Naturally you couldn't expect them to say definitely that they would provide the end money. They weren't even sure that they could. After all, there wasn't too much of their five million left and their job was to get as many films going as possible, with, in each case, the minimum investment.

However, without committing themselves definitely—and that should be very clearly understood—and subject, of course, to their being satisfied as to the completion guarantors, the budget of the film, the schedule, the cast and the director, it would not be beyond the bounds of possibility that they might provide the additional finance required. Their great difficulty, of course, was the fact that they functioned as trustees of public money, and as a consequence any sort of positive action calculated to expedite production carried with it the awful danger of a question in Parliament.

Incidentally, it would be necessary to submit a treatment of the story as soon as possible for the directors of the corporation to read. Admittedly they didn't pretend to be film experts, but naturally they wanted to be quite sure that what they might support financially stood a good chance of being successful at the box-office. And as people without professional knowledge and experience they would naturally be in a position to judge. If the corporation contributed to the financing of the film, then it would be approximately at the rate of 6 per cent., plus a proportion of the profits determined by the amount of money provided. This might vary between 10 per cent. to 30 per cent. Well, that's a nice weight on your mind, but do not despair—yet. There is much yet to be done.

More Percentages Vanish

And so to the completion guarantor. An excellent fellow who agrees to give you the required guarantee of completion, for which he expects 3 per cent. to 4 per cent. of the budget cost of the film as his fee, and a slice of your profits. It will also be suggested that you insure the film with a firm of Lloyd's brokers selected by him, to protect him from the very risks for which you are paying him to protect you. And that will cost you a further few thousands.

Back we go then to the distributor and he insistently calls for the budget, the cast list, the schedule and the name of the director. But to secure these elements it is necessary to have hard cash, and so—if you are like most producers and have no money—you seek some kind friend who will undertake to meet the commitments into which you are now obliged to enter, and for that aid you will be expected to surrender once again a further substantial portion of whatever profits may be coming to you.

So you go on, rushing from one office to another, pleading with a banker here, importuning an accountant there, and a moneylender somewhere else. The distributor says the script requires altering (there is no happy ending), the Film Finance Corporation says the schedule's too long, the completion guarantor says the budget's too high and the stars aren't box-office. Everybody is an authority; everybody knows how the film should be made because everybody, with the exception of the wretched producer, knows exactly what the public wants.

Days become weeks and weeks drag on into months and finally—miracle of miracles—they have all approved the project and you are left with two whole weeks in which to get the film on to the floor for shooting.

By this time you are a nervous wreck. The days of suspense, the weeks of bargaining, the months of frustration, have taken their toll. Your enthusiasm is gone, energy dissipated and creatively you are as dead as a dodo.

Such is the life of an independent producer today, but don't worry yourself unduly. After all, Sir Alex Korda, whose resolve must be unbounded, continues to turn out a steady stream of good films; the irrepressible Herbert Wilcox confounds the doubters and rings the bell at the box-office once again with "Odette," and there are others in the same tradition. If a few independent producers find themselves in the hands of psychiatrists or in the local lunatic asylum, well, after all, it is surely not too high a price to pay for having our industry organised upon a sound business basis and thus the pride of private enterprise—and the living glory of Government intervention.

NOTE.—*The Boulting brothers wrote their article before the statement made by James H. Lawrie, managing director of the National Film Finance Corpn. that fewer productions would be Government assisted and that unemployment was likely to increase.*

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MAKING COLOUR TALK

USE of colour almost as an additional member of the cast to help tell a story in mime, and the properties of different shades to heighten various emotions are among theories being tried out by Powell and Pressburger Productions.

by MICHAEL POWELL *and* HEIN HECKROTH

SOME unorthodox ideas on the use of colour in films are held by producer-director Michael Powell and production designer-artist Hein Heckroth, collaborating with producer-director Emeric Pressburger on a most unorthodox film—"The Tales of Hoffmann"—at Shepperton. They are using it as an essential part of the story and not merely as an embellishment.

Talking with KINE. Studio Correspondent Graham Clarke, they showed a similarity of outlook, but did not agree in detail.

Asked what should be the basic idea behind the use of colour in films, Hein Heckroth, who admits that he is an artist and not a film-maker, replied: "To make a symbol that represents nature, you cannot copy nature's colouring, such pigments don't exist. You must set out to use colour dramatically like you use an actor, and it is essential that the person using the colour should be a painter."

Not Always Essential

Mickie Powell was less dogmatic. He agreed that colour should be used to help in telling the story, but added: "I have recently come to the general conclusion that in naturalistic films, including those with exteriors, colour is not essential. It should be used only where a picture needs it and then it must be designed very carefully with the object of using colour."

Both agreed that colour should not detract from realism, but where Hein insisted that colour is always essential and that black-and-white is an abstraction of nature, Mickei agreed that an ordinary street scene on the screen looks less real when coloured, and remarked: "I don't propose to shoot any more naturalistic pictures in colour. I have done it in the past, but one has to learn."

Hein thinks in colour; yellow suggests frivolity; gold, red and black give richness and nobility; silver greys, light blues and olive greens suggest maturity when man has reached understanding with nature; "with the proper colours you hardly need words. I like to use them as a musician uses a melody. Every mood and emotion has its shade."

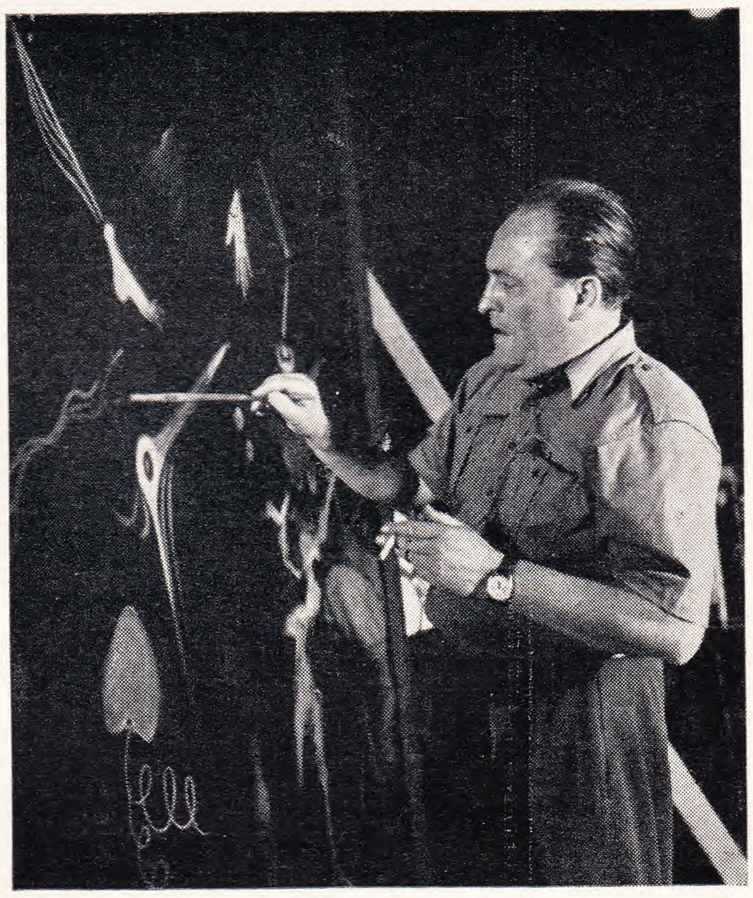
Hollywood Needed Guiding

On the question on the use of bright, hard colours (for which some American films have been criticised), Mickie agrees that these have their uses, but they should be sparing and for emphasis only where vitally necessary.

Hein explains how such came to be used. "They are loved always by healthy and unsophisticated people, which is why they appeal to a great number of American audiences and the makers of the films were not guided artistically."

This led to a discussion on whether colour films were better made here than in Hollywood. Mickie feels that the more recent efforts from Hollywood are the equal at least of any British product, because Hollywood was now consciously designing for colour instead of employing it merely as a novel and "attractive" addition.

Hein, however, still holds that Britain is



ahead, because the different departments in Hollywood never have the advantage of the personal touch that is normal in England.

"The people in the laboratories are our personal friends," he explained, and "we can always talk things over." What happens in Hollywood is one of the tragedies of a big industry. If you have to produce enormous quantities you must standardise. If the British industry grew to the same size it would start happening here."

Both agreed emphatically that colour helps the designer and the director. It makes emphasis more pointed, says Mickie, can be used to bring out detail and lends added interest to make-up so far as the finished result can be seen by the audience is concerned.

Adding Speed

Hein agrees. He can work faster on his sets when using colour. In black-and-white, he explains, he has to search carefully for exactly the right texture to give his backgrounds verisimilitude, but in colour he can get similar results by imitating and exaggerating materials.

Added to this is the system applied in "The Tales of Hoffmann" of using set-ups in place of the traditional box or semi-box sets. Mickie says frankly that, without colour, they could not have gone as far as they have done had they been tied by the old-fashioned method, and Hein is grateful for the extra scope that has allowed him to keep strict continuity of colour.

The co-operation of the staff in the Technicolor laboratories is highly praised. Hein describes it as "an ideal combination."

"We are constantly exchanging views," he said, "and the colour experts often come over to the studio to watch what we are doing."

Mickie describes the Technicolor back-room boys as "wonderful to work with. The liaison could not be closer or happier."

Limits to Aid

But there are definite limitations to the amount of help that the laboratories can give to the unit in modifying the screen results of lighting, colour and density. That is why Mickie likes working with lighting cameraman Jack Cardiff and camera operator Chris Challis, both of whom were "brought up" in Technicolor. They know that, unless it is in the camera to start with, the labs. cannot get results.

The same idea is behind Hein's efforts. There have been times when he has not even put pencil to paper until he has explained to the colour men what he wants to achieve, and they have agreed that it is possible. "We have made mistakes in experimenting," he admits, "but nearly always, whatever I ask, they say they will have a try and they don't often fail and, in any case, our mistakes will never be seen outside the studio."

SURREY STUDIOS OPEN AT BLETCHINGLEY

Music Gallery Spot Rail In Country Mansion

AN addition to British production facilities opened this month when Charles Reynold's Present Day Productions moved into Surrey Studios, near Merstham, to begin "The Chelsea Story."

Formerly Old Quarry Hall, Bletchingley, a mansion on the Surrey Downs, Surrey Studios has the unusual advantage for a country house adaptation, of possessing at least one stage with plenty of head room. This was formerly the banqueting hall, which has an effective roof heigth of 25 feet, and more or less made to measure, has also a music gallery running around it that is admirably suited for use as a spot rail.

Two Stages

The banqueting hall has a floor area of 44 ft. by 40 ft. by 25 ft. high and there is also a smaller stage of 50 ft. by 25 ft. by 12 ft. high. The house stands in its own grounds of 21 acres, thus providing an excellent "lot," opportunities for rural and garden exteriors. It has its own diesel plant for electric supply and other rooms have been converted for cutting and editing, and a "rush" theatre is now being equipped.

This will be Charles Reynold's first production since he finished "Dark Interval" last spring. Stars of the film are Henry Mollison and Sidney Tafler; Charles Saunders is directing and Ted Lloyd has charge of the lighting. Distribution will be through Apex. The schedule is four weeks on the stages and one on location around London.

BB

THE PEN—A Woman Producer's Best Friend

At work on the script of WHITE HEATHER, Joan Harrison with (left to right) star, Ray Milland; director, Jacques Tourneur; executive producer, David E. Rose; and 1st asst. director, Kenneth Rick

SCRIPTWRITERS are the most important people in film production on both sides of the Atlantic now and their future was never brighter says

JOAN HARRISON

In an interview

A GROWING appreciation of the importance of stories and of the people who write them is one of the most noticeable trends in present-day Hollywood production.

This is the opinion of Joan Harrison, one of the only two women film producers in the United States, who is over here making "White Heather," the second of David E. Rose's Coronado productions.

Joan Harrison is probably as good a person as any for an objective view of film-making on the two sides of the Atlantic. She was born and educated in England, but it has been in America that she has made her name and, incidentally, acquired the trans-Atlantic accent and idiom.

She entered the film industry in 1939 as personal assistant and writer to Alfred Hitchcock, working on "The Thirty-nine Steps," "Secret Agent," "Sabotage," "The Lady Vanishes," and "Jamaica Inn," among other films, and she frankly confesses that she learnt a great deal from Frank Launder and Sidney Gilliat. It was indeed their "The Lady Vanishes" that really started her writing.

When Hitchcock went to America in 1939, Joan went with him. She worked on such scripts as "Rebecca," "Foreign Correspondent" and "Suspicion," but after she left "Hitch" and went on her own she found that screenwriters were treated with little respect. Eventually it came to a point that one of her scripts was so altered that she had her name removed from the credits and refused to write again—unless she was allowed closer co-operation with the actual production.

The result was that she was asked to produce a picture from one of her own scripts. The experiment succeeded.

Her experience, says Joan, is far from unique in Hollywood. Many of the leading producers and directors now used to be screenwriters, and that, she believes, is the only way high-quality films can be made; and the trend is increasingly towards that situation. "There are exceptions," she says, "but in those cases the director is usually a good writer without realising it."

This has brought its own disadvantage with it. As the best screenwriters decided to become producers or directors in order to get exactly the treatment they wanted for their own stories, so the "pool" of good writers dwindled. But there is a good side to the evolution, also, for it has led to a true appreciation of story values. In Joan's own words, "The best director in the world can't do anything without a good script."

How then can Hollywood, and Britain as well, replenish the stock of experienced writers? Joan has a plan for that. The bad days when a writer very often never even went on the floor during the shooting of a picture must never be allowed to return.

Promising youngsters should be encouraged to work with an experienced writer, or with the director. It is vital that the writer and the director should see the film in the same way.

She is not in favour of having a team of writers under contract to studios. Such a system is often uneconomical and leads to subjects being foisted on to people who have no real sympathy for them. "And working in a pen at a studio doesn't teach you anything," she comments.

"The future was never so bright for good scriptwriters as it is now," she says. "This business can never do without good writers, good directors, good producers and good actors and actresses—but it could more easily do without producers!"

Comparing British and American production, Joan says that Hollywood has always aimed at shorter shooting schedules than Britain, and they are still cutting down over there.

Americans get through the studio work more quickly because the technical crews are kept together, moving almost without change or break from one picture to another. The difference over here, where longer intervals make it uneconomic to keep the same unit together, is pointed by the fact that for "White Heather" she has only two of the unit that helped her to make "Your Witness" in England last year.

"Continuity of work is very important," says Joan. "I have often wondered whether the lower grades of studio workers would not be happier if they were put on a weekly wage and guaranteed 40 weeks' work in the year."

Asked if American crews worked faster than British, Joan replied: "I don't think there is really that much difference. Your crews here are just as willing, just as interested in the picture, if it is a good one, and just as ready to carry out the director's orders—if they respect him. But we don't have your time stoppages. We can always work a little later if we want to, and, of course, we have the six-day week; that makes a lot of difference."

Another way in which she thinks Hollywood is ahead of us is in the preparation that goes before the actual making of a picture. In America everyone works hard and in the greatest detail on preparation; over here that department seems to be a little haphazard.

That may be explained partly by the fact that so much of British production, particularly within the last 18 months, has been by independents. Adequate preparation is a far more complicated job for an independent.

As a producer, Joan has one unbreakable rule. She makes pictures only of subjects in which she herself believes. That is one reason why she has not tied herself to any one studio or ever agreed to make a series of pictures for any single group.

On the subject of British actors and actresses she has equally definite views. We are short here of budding women stars, but we have some of the best leading men in the world.

Hollywood gives every assistance and encouragement to women who show promise as artists (or technicians), but there is not enough grooming over here, and she greatly regrets that J. Arthur Rank's "Charm School" has ceased to function. "Mr. Rank had the right idea," says Joan, "and it could have gone on producing results, because the talent and good looks are here, only waiting to be discovered and developed."

Generally, however, she believes that the average standard of film-acting in Britain is higher than in Hollywood, because our supporting and character players seldom allow themselves to get into a typed groove and are constantly refreshing their outlook and adding to their technique and experience by returning to the stage when they are not before the cameras.

After Barra Studio came the Wallasey Studio... and Now...

EALING'S BERMONDSEY STUDIO

"Provides a Double Weather Alternative"

Says BAYNHAM HONRI

EALING'S mobile studio unit system was evolved from the fragrant whimsy of an associate producer searching for locations in the Hebrides. Passing an empty Roman Catholic church hall on the way back to the hotel at Barra, he jokingly remarked : "And there's Ealing's No. 5 stage, where we shoot the local inhabitants on wet days!"

The Weather Alternative

Many a true word has been spoken in jest and, besides, the idea sounded to me something like a challenge to technicians. And so, after talking it out with Ealing's technical heads of departments, I was able to recommend to Sir Michael Balcon and Hal Mason that we should convert that church hall into a studio, where sets (prefabricated at Ealing) could be put up for "Whisky Galore."

The church hall was duly sound-proofed and provided with considerable lighting and other equipment, the conversion taking about three weeks to carry out. The lighting equipment was selected so that it could be used for shooting in real interiors on the island, in addition to the temporary studio. This gave the unit an alternative shooting schedule, enabling them to shoot inside on wet days instead of sitting around at the hotel looking out at the grey skies.

The success of the Barra experiment led to the extensive use of the same equipment and technique on real interiors at Scotland Yard and elsewhere for "The Blue Lamp" and also for alternative studio facilities at Wallasey for "The Magnet." The Wallasey Studio was also a converted church hall, this time of Congregational denomination. Charles Frend steadily progressed with his picture, wet or fine—and there were many successive days of rain during the six weeks the unit was in the New Brighton district—and came back to London on the scheduled date. The unit working on this picture accustomed itself to rapid change-overs from exterior to interior shooting and vice versa, according to the equally rapid changes of weather conditions.

The Bermondsey Studio

And now the system has been operated on "The Pool of London," a film which calls for six weeks of exteriors in the Tower Bridge locality, only a few miles from Ealing studios itself. And yet, we have gone to the trouble of improvising a little local studio at Bermondsey, with all the facilities we fitted up (and more!) at Wallasey. Why?

This time the idea evolved from the fact that local catering facilities for the unit would not be satisfactory. In view of the extensive night shooting and the rapidly changing schedules due to the coming and going of ships, tides—and weather, it seemed impossible to find a contractor who would carry out the feeding of a film unit of very variable size at a reasonable figure. We decided to look for local premises and to fit up our own canteen, serviced from Ealing studios.

Ralph Hogg, the unit manager, found an empty warehouse in Marine Street, Bermondsey, which was within a mile radius of almost all the locations in the picture, with a floor area of 7,650 sq. ft. and with water, gas, electricity and telephone ready for reconnection. These premises seemed ideal. There was plenty of space—more than required—and two gated entrance roads which could be used for parking vehicles. It occurred to me that these premises could be used for other things besides the canteen. It could be used, for instance, as a base for the unit to meet in the morning, instead of the usual system of assembling the unit at Ealing studios and being transported out to the location. This would save at least an hour's travelling time in the morning and evening.

Furthermore, a great deal of equipment, wardrobe and stores could be kept at the depot ready for servicing the exterior unit. In the remaining space, a small studio could be improvised, utilising the soundproofing and other materials previously used at the Wallasey and Barra studios.

Eventually, the following facilities were made available at Ealing's Bermondsey depot:—

Studio stage with a floor area of 1,300 sq. ft.; canteen to seat 70 persons (fitted with gas cookers, and so on); three small dressing-rooms; one large dressing-room; camera room; sound department store; wardrobe room; make-up and hairdressing room; theatre; three production offices (one with telephone); ladies' and gentlemen's lavatories.

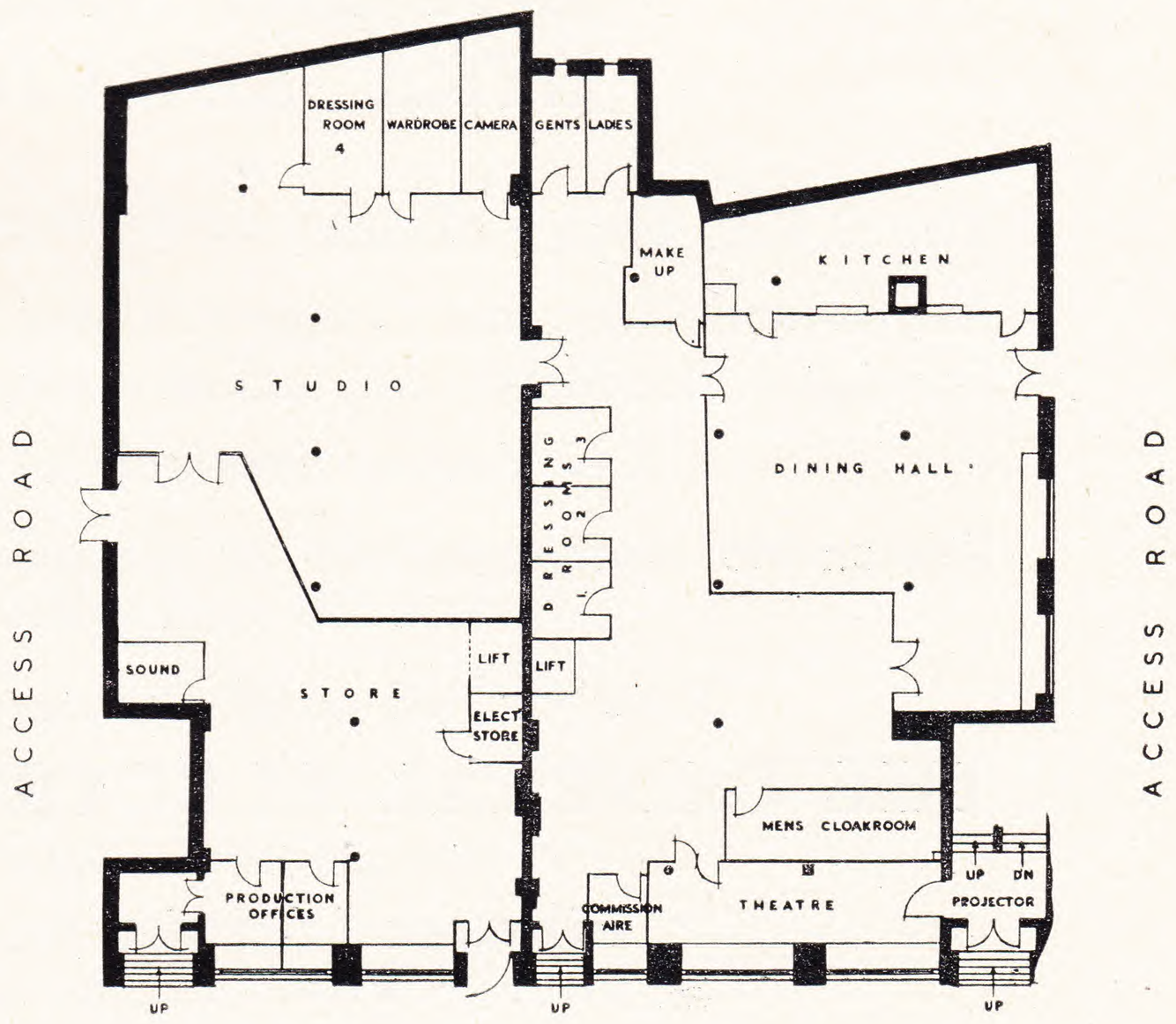
The above list of accommodation sounds ambitious and might appear to indicate an extensive and expensive building operation. Actually, certain of the partitioned offices were already in existence and others were quickly erected by using standard studio ply flats. The whole of the conversion was carried out in about three weeks, during one week of which only four men were working on this particular job.

The Bermondsey studio proved itself. On the very first day the unit assembled at the "depot" and then moved to an exterior location near Tower Bridge. Within an hour or so the weather turned against them. Promptly they moved back to Bermondsey studio and carried on shooting on an interior set: the crew's quarters of the ship *Dunbar*. Exterior of this ship has been shot at a wharf near Tower Bridge.

A further facility, which is being employed for the first time on this picture, is the radio telephone. One of the studio cars has been fitted with a mobile radio transmitter working on a very low wavelength, which keeps in touch with the studio. Tests have proved quite satisfactory up to a distance of about twenty miles, though "blind" spots are encountered at extreme range when the studio car is in narrow streets or behind high steel-framed buildings. This difficulty has been overcome by erecting a very high aerial mast at Ealing studios and providing the car with a 20-ft. telescopic mast, which can be put up in about a minute and used with the car stationary. Application had to be made to the Postmaster-General for a licence for the radio telephone, which was readily granted.

The radio telephone has already proved its usefulness, particularly as the Bermondsey depot itself was without a telephone instrument! The radio telephone, which is a standard commercial set made by Pye, of Cambridge, is as simple to use as an ordinary telephone, and should not be confused with the portable walkie-talkie sets used by the Army. It is more like the far more reliable radio telephone used by the police. The frequencies of the transmitters are fixed, with crystal control, and there is no tuning or fiddling to be done.

Communications are of prime importance in the organisation and management of a film unit's operations, especially when location activities are subject to instant change. The system operated in London gives the unit two weather alternatives. When the weather report is bad, for the next day the unit arranges to shoot a medium-sized or big set at Ealing studios. If the report is favourable, the unit goes to Bermondsey depot for location work. If the weather changes during the day, work continues on a small set inside the Bermondsey studios. Hence the new expression: "Double weather alternatives."



Plan of Ealing's Bermondsey studio used for filming "The Pool of London"

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THE YEAR'S FILMS IN BRITAIN

DURING the production period, Oct. 1, 1949—Sept. 30, 1950 a total of 92 pictures were in production in Britain. Of these 62 were first features, six of which were more than half completed before Sept. 30, 1949.

Following is a studio-by-studio list:—

ABPC, ELSTREE

The Woman With No Name	ABPC: AB-Pathé
The Franchise Affair	ABPC: AB-Pathé
Green Grow the Rushes	ACT: British Lion
†Happy Go Lovely	ABPC-Marcel Hellman AB-Pathé
*Laughter in Paradise	Mario Zampi: AB-Pathé

ABPC, WELWYN

Cairo Road	Mayflower: AB-Pathé
Murder Without Crime	Victor Skutezky: AB-Pathé
Smiling Irish Eyes	ABPC: AB-Pathé

DENHAM

†Treasure Island	RKO-Walt Disney: RKO-Radio
They Were Not Divided	Two Cities: GFD
Morning Departure	Jay Lewis: GFD
The Reluctant Widow	Two Cities: GFD
†Captain Hornblower	Warner's First National: Warner's
*No Highway	Louis D. Lighton: 20th Century-Fox

EALING

My Daughter Joy	Ratoff Prods.: Brit. Lion
Dance Hall	Ealing: GFD
Cage of Gold	Ealing: GFD
The Magnet	Ealing: GFD
*Pool of London	Ealing: GFD

EXCLUSIVE

At Oakley Court, Bray

Room to Let	Anthony Hinds: Exclusive
Someone at the Door	Anthony Hinds: Exclusive
What the Butler Saw	Anthony Hinds: Exclusive
The Lady Craves Excitement	Anthony Hinds: Exclusive

At Gilston Park, Harlow

The Black Widow	Anthony Hinds: Exclusive
The Rossiters	Anthony Hinds: Exclusive
To Have and to Hold	Anthony Hinds: Exclusive
The Dark Light	Anthony Hinds: Exclusive

(The last-named was made entirely on location.)

GATE

Once a Sinner	Argyle: Butcher's
Odette	Herbert Wilcox: Brit. Lion
Lilli Marlene	W. J. Gell: Monarch

ISLEWORTH

State Secret	Launder and Gilliat: Brit. Lion
The Late Edwina Black	Elvey-Gartside: Independent FD
The Wonder Kid	Gene Markey: Brit. Lion
Into the Blue	Michael Wilding: Brit. Lion
*White Heather	Coronado: RKO-Radio

MANCHESTER

Over the Garden Wall	John E. Blakely: Mancunian
Let's Have a Murder	John E. Blakely: Mancunian
The Irish Immigrant	John E. Blakely: Mancunian

MERTON PARK

The Third Visitor	Elvey-Gartside: Eros
Man Detained	Independent Artists: GFD

MGM BRITISH

The Miniver Story	Sydney Franklin: MGM
Calling Bulldog Drummond	Hayes Goetz: MGM

NETTLEFOLD

Shadow of the Past	Mario Zampi: Columbia
The Body Said No	Daniel M. Angel: Eros
Up For the Cup	Byron-Citadel: ABFD
Paul Temple Triumphs	Nettlefold: Butcher's
Come Dance With Me	Mario Zampi: Columbia
Honeymoon Deferred	Joseph Janni: —
Midnight Episode	Theo Lageard: Columbia
Mrs. Drake's Duck	Daniel M. Angel: Eros
Something in the City	E. G. Roy: Butcher's
The Scarlet Thread	E. G. Roy: Butcher's
Old Mother Riley's Jungle Treasure	Harry Reynolds: Renown
The Long Dark Hall	Five Ocean: Brit. Lion
Tom Brown's Schooldays	Brian Desmond Hurst: Renown
*Smart Alec	Vandyke: Grand National
*Two on the Tiles	Vandyke: Grand National
*Four Days	Vandyke: Grand National

PINEWOOD

So Long at the Fair	Betty E. Box: GFD
Prelude to Fame	JARO: GFD
Waterfront	Paul Soskin: GFD
Tony Draws a Horse	Pinnacle: GFD
Trio	Anthony Darnborough: GFD
The Woman in Question	Javelin: GFD
The Clouded Yellow	Betty E. Box: GFD
Highly Dangerous	Anthony Darnborough: GFD
The Blackmailer	Harold Huth: GFD
South African Story	Mayflower: GFD

Continued on page 13

Current Production Chart at Oct. 26

Studio and Subject.	Stars.	Director.	Lighting Camerman.	Producer and Renter.	Weeks on Location.	Progress on Stages (Weeks).
DENHAM—Denham 2345						
"No Highway"	James Stewart; Marlene Dietrich ...	Henry Koster ...	Georges Perinal	Louis D. Lighton: 20th Fox	1	5
EALING—Ealing 6761						
"Pool of London" ...	Bonar Colleano; Susan Shaw ...	Basil Dearden ...	Gordon Dines ...	Michael Balcon: GFD ...	9	3
"The Lavender Hill Mob" ...	Alec Guinness; Stanley Holloway ...	Charles Crichton ...	Douglas Slocombe	Michael Balcon: GFD ...	1	5
ELSTREE (ABPC)—Elstree 1600						
"Laughter in Paradise"	Alastair Sim; Fay Compton ...	Mario Zampi ...	Bill McLeod ...	Mario Zampi: AB-Pathe ...	4	5
ISLEWORTH—Hounslow 2323						
"White Heather"	Ray Milland; Pat Roc	Jacques Tourneur ...	Ossie Morris ...	Coronado: RKO-Radio ...	5	5
NETTLEFOLD—Walton-on-Thames 2414						
"There is Another Sun"	Susan Shaw; Maxwell Reed ...	Lewis Gilbert ...	Wilkie Cooper ...	Butcher-Nettlefold: Butcher ...	—	2
PINEWOOD—Iver 700						
"The Browning Version" ...	Michael Redgrave; Jean Kent ...	Anthony Asquith ...	Desmond Dickinson	Edward Baird: GFD ...	1	7
"Night Without Stars" ...	David Farrar; Nadia Gray ...	Anthony Pelissier ...	Guy Greene ...	Hugh Stewart: GFD	—	4
SURREY STUDIOS—Caterham 2288						
"The Chelsea Story"	Henry Mollison; Sidney Tafler ...	Charles Saunders ...	Ted Lloyd ...	Present Day: Apex ...	1	3

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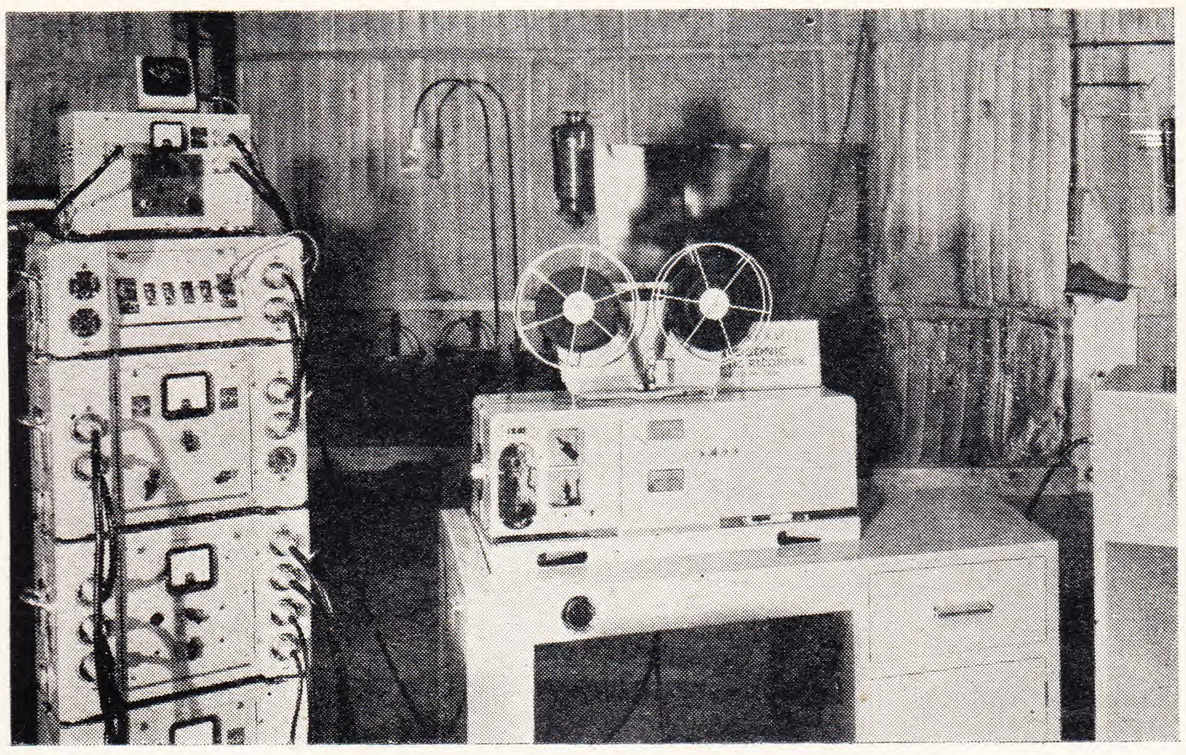
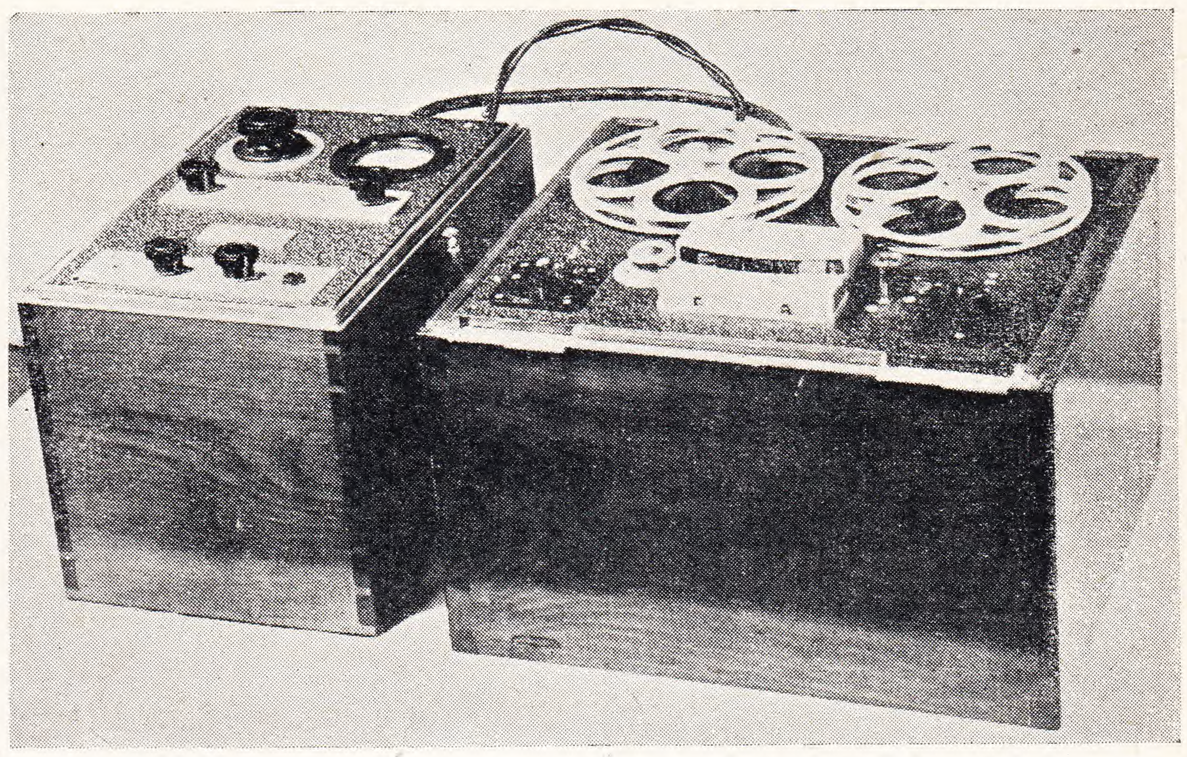


British Acoustic "Ferrosonic" magnetic recording channel



Leevers-Rich portable magnetic recorder

"THE MAGNET" TESTED MAGNETIC SOUND

Great saving of raw stock and some saving of time are among the advantages of magnetic recording for film-making, but it also has snags, according to a joint meeting of BKS and ACT members

THREE speakers discussed practical uses of magnetic recording at last month's joint meeting of the British Kinematograph Society and the Association of Cinl Technicians. They were H. G. Gould, technicae director of Fidelity Magnetic Recordings (formerly of Scophony-Baird), who discussed the technical basis of the system and its application to the sub-standard film; Stephen Dalby, chief recordist of Ealing Studios, who has used the system for feature production; and Peter Birch, of British Instructional Films, who dealt with its use in documentary production, and demonstrated music recording of outstanding quality.

Mr. Gould recalled the history of the process. The first patent on iron-wire recording was, he said, filed in 1862, while the first practical application of the principle was the Poulsen Telegraphone of 1900. The Stille Blattnerphone, using steel tape, had been employed by the BBC. The present system of coated plastic tape had been studied in Germany and also in Japan; it was only when the research teams went into the conquered territories after the war that the greatest advance was appreciated—the use of a supersonic current for erasing and biasing.

At 35-mm. film speed the frequency response can extend from 50 to 10,000 c/s, and at 16-mm. speed, from 100 to 5,000 c/s. An advantage as compared with optical recording is the much increased signal-to-noise ratio; an accepted figure for the 35-mm. photographic track with noise reduction is 50 db., while magnetic recording is capable of a range of 60 to 70 db.

The greater disadvantage of the magnetic track is its invisibility. No method exists which gives an editor the same facility in reading the track as with an optical recording.

Mr. Gould stressed the point that in the professional field magnetic recording must not be thought of as enabling the number of skilled personnel to be reduced. But its use can bring very considerable economies in the shape of a saving of raw stock costs and of time, and a greater flexibility through the facility for immediate play-back.

Stephen Dalby recalled that in 1932 experiments had been made at the BIP studios with the Blattnerphone. The problem then was synchronism with the picture; the development of synchronous magnetic recording systems meant that the magnetic film could be handled as easily as an optical track. A large expenditure of recording stock to produce a good take has until recently been regarded as an inevitable part of the cost of production; this is no longer the case.

In feature film production, bearing in mind the length of time that a film is in the cutting room, it would be unwise to use the original magnetic recording as a cutting positive copy; at Ealing the selected takes have always been transferred to a photographic track. The actual operation of transfer is almost automatic.

The first feature on which magnetic recording was used was, appropriately enough, "The Magnet." Rushes were sent daily from New Brighton to Ealing, and the take corresponding to the printed take of the picture was transferred to film. Many of the exterior recordings were used as guide-tracks for post-synchronising, but the original interior tracks were incorporated in the completed film. The higher the number of takes of any one scene the greater the economy.

The equipment used for "The Magnet" location was the GB-Kalee studio-type channel mounted in a recording truck. A more portable type of channel would be required for certain locations, such as the channel developed by Leevers-Rich, which uses tape instead of perforated film; this is powered from a 12-volt accumulator, and synchronism is effected by a pulse recorded on the film. This equipment will be used in Africa on "No Vultures Fly."

Among practical advantages of magnetic recording the speaker included the ability to provide immediate play-back, so that, for instance, the result of post-synching can be checked while the artist is on call; and the production of dupe negatives at a dubbing session.

Peter Birch commenced his paper by suggesting that basically there was little difference between the requirements of optical and magnetic recording. Anything calculated to save money or staff was sure of an enthusiastic welcome from the documentary producer, and the GB-Kalee channel had been used by his unit since October, without any regrets. Last year over a million feet of sound stock had been used by his unit at a cost of £11,000; it was hoped this year to halve that figure.

The cost of transfer to a photographic track had been regarded as offsetting the saving; the speaker did not agree, since although a staff of three was needed, the operation did not take long.

One trouble experienced is "ghosting," or the transfer of the magnetic image to adjacent turns of the reel of film. It has not so far been found serious and has always been masked by the background. Another fault is imperfect wiping; if the previous record is not properly erased it may be heard as a background. That can be cured by resetting the wiping apparatus.

Joining is the worst trouble. Different reels of stock vary in sensitivity, and if a number of sections are joined up together there must be quite a lot of levelling up; this is, no doubt, only a temporary problem. When a join passes through a play-back head there is a certain hiatus in the sound.

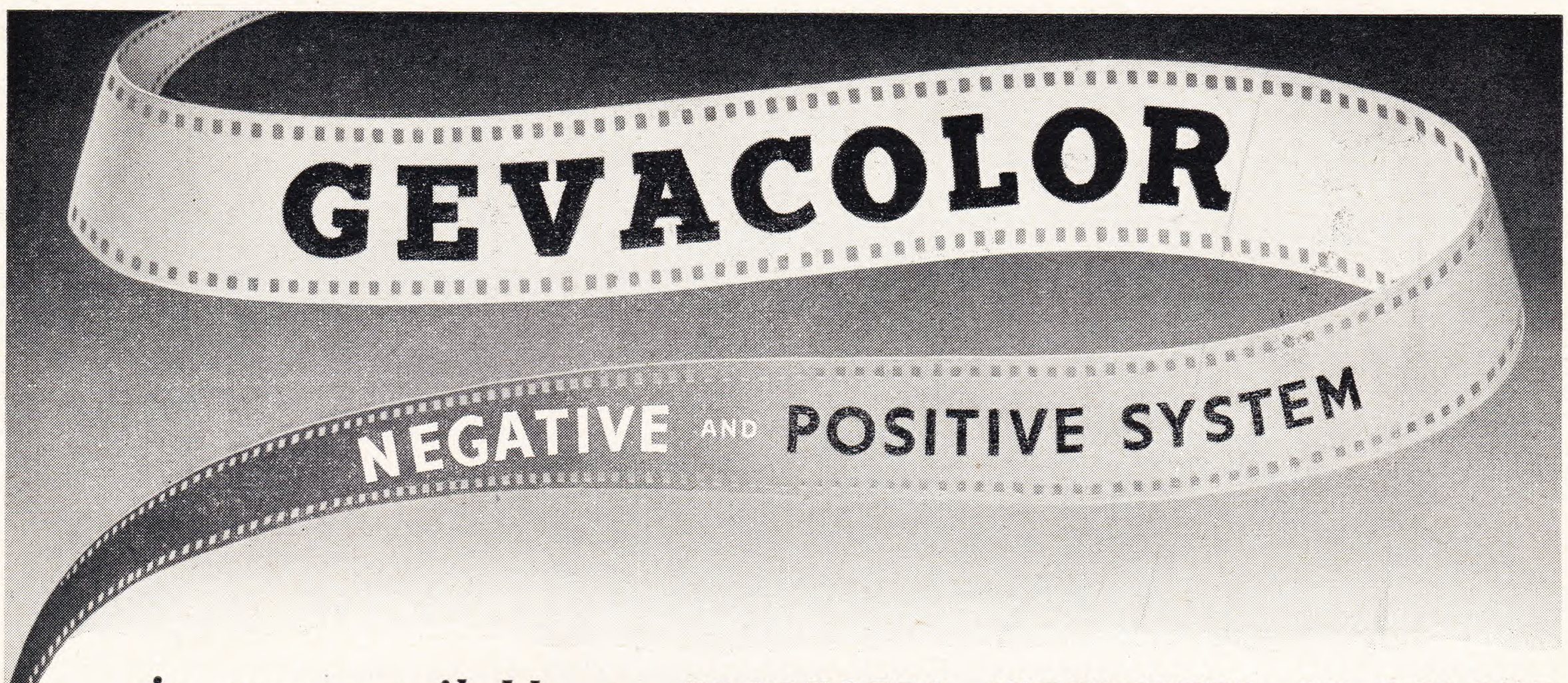
Bretton Byrd asked a number of technical questions. Compression, Mr. Birch suggested, was not necessary, but Mr. Dalby preferred to use it to improve diction. Portable equipment comprised only three suitcases, including a cathode-ray tube for monitoring. H. G. Gould agreed that the addition of a magnetic track to picture film would introduce problems of abrasion, unless the projector were redesigned.

Mr. Birch expressed the view that "ghosting" did not arise during storage, but was present from the start. He agreed with Mr. Byrd that monitoring from the tape would enable imperfect wiping to be detected; the trouble occurred chiefly on passages of high amplitude, above 75 per cent. modulation. Mr. Dalby stated, on the contrary, that the only "ghosting" he had experienced was when a recording had been stored before transfer.

Mr. Gould agreed with George Gunn that non-magnetic cans should be used for the storage of magnetic recordings. On the question of synchronisation with the Leevers-Rich equipment Mr. Dalby stated that the only adaptation of the camera was the addition of a pulsing wheel; the camera could even be driven by clockwork.

Dealing with the need for avoiding joins, Mr. Birch stated that in 25,000 ft. of stock which he used, there were probably not more than 20 joins. Mr. Gibson explained a method of editing he had used for a BBC programme, in which selected sections were transferred one by one upon a second tape; it was agreed that this system would be too complicated for use with a picture film and would need much additional equipment.

W. Bland described an American system employing printed edge numbers, but the difficulty of reusing the stock was admitted. G. Adams mentioned that perfect wiping could be secured by the use of Alnico.



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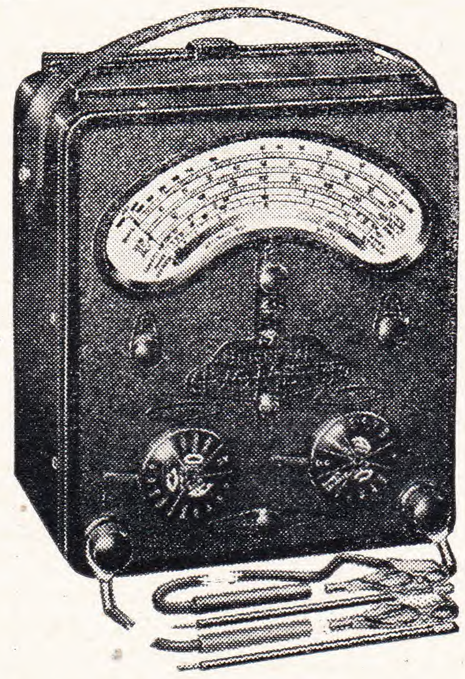

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DENHAM CAN MEET ALL COLOUR DEMANDS

The extensive facilities that are now offered by JARO in its Denham Laboratories since the additions were made are described in detail.

By R. HOWARD CRICKS, FBKS, FRPS

IN the annual report of the J. Arthur Rank Organisation, reference was made to the extension of Denham Laboratories, and to the work of W. M. Harcourt, FBKS, FRPS, in his efficient operation of the laboratories. Last month I was conducted by him on a tour of the laboratories, and appreciated more fully the value to the JARO of a so well equipped plant.

The extension to which Mr. Rank referred consists in the construction of a separate building which virtually duplicates part of the main building. The principal reason for this extension is the importance of colour, although a large increase in black-and-white output is now becoming possible.

Spray Processing

Denham was among the first of British laboratories to experiment with spray processing, the advantages of which Bill Harcourt appreciated from the first—chiefly the enhanced photographic quality of both negatives and prints. Some time ago, four spray developing machines were built by British Acoustic and they have proved eminently satisfactory. Four similar machines are now under construction.

A feature of spray machines is, of course, that the film runs throughout in water-proof empty glass cabinets; in each compartment, six fish-tail jets spray freshly replenished solution upon the film. Developing, fixing, washing and drying compartments are practically identical, except that in the last surface moisture is wiped off the film by felt-covered rollers.

An important feature of these machines is the ease of access to any part of the film path. The large doors are not hinged, but slide freely on overhead runways. In every part of the machine the film is protected by micro-switches, which in the event of trouble stop the machine.

Largest Colour Output

Denham Laboratories have probably the largest output of colour films this side of the Atlantic, Gevacolor, Chromart, Ansco Color, Kodachrome and other similar systems—not to mention ordinary bi-pack—are all regularly processed in the specially developed plant. It is amazing to learn that, notwithstanding that none of these systems is yet being used for feature production, a 35-mm. developing machine and a similar 16-mm. machine are working continuously; this is due largely to processing orders received from practically every Continental country.

These machines are Debrie Multiplex, so modified that they can be easily changed over from one system to another; on the floor below the developing room is a whole battery of pumps for handling the various chemicals. For a process that needs reversal, one row of tanks provides, in succession, developing, rinsing, second exposure, second development, bleaching, fixing, washing and drying. When a negative-positive process is being handled the bleaching and second fixing tanks provide additional washing.

At present deep-tank working is necessary for colour, because of the risk of oxidisation; but research is proceeding on the use of spray processing. For producing positive sound tracks the sulphiding method is at present used; the viscous bleach method is unpopular because of its messiness. Efforts are being made to produce a sound-track varnish which can be applied to wet film; this will then permit a silver track to be retained without the additional process at present needed.

The enormous output of the developing plant makes heavy demands upon the capacity of the printing equipment. For black-and-white work no fewer than 45 Bell and Howell model D printers are in use, as well as the 16-mm. equivalent, the model J. The foresight of the JARO in tieing up with Bell and Howell is bearing fruit: a new printing room is equipped with ten model E release printers, all British made to American drawings.

Features of this machine are that the negatives run alternately forwards and backwards, needing therefore no rewinding (which experience shows is a frequent cause of mutilation); they are cleaned before each run by means of air suctions; contact in the printing apertures is assured by compressed air. Reprints can be made semi-automatically merely by setting an indicator to the footage point from which reprinting is to commence.

Travelling Matte

The light control of this machine is, of course, effected by a travelling matte—a film travelling at one-quarter the speed of the negatives, having a transparent area of variable width. In America these mattes are made up by joining together sections of stock film; but a Model D printer has been converted to print them directly, the ordinary light control lever altering the length of the exposure slit.

Newsreel printing is carried out on three banks of Vinten rotaries, each bank containing eight machines. One bank is reserved for the G-B News, another for Universal, and the third—pending the reconstruction of Pathé's own laboratories—for the Pathé Gazette.

For the printing of tripack colour films, the only completely suitable machine is the Debrie Matipo. The reason for this is that its light-control band is so easily adaptable not only to varying light intensity, but to the interposition of filters to vary the colour of the light. Several of these machines are already in use, and others are now being converted for colour.

Colour grading is a particularly difficult operation. Once a scene is graded—which may call for the production of two test strips—it is necessary to punch apertures of the correct diameter in the Matipo control band, and then attach appropriate filters. Three racks, each having 30 compartments, carry filters of the three colours—small squares which have to be attached to the control band by little brass frames.

For the control of processing, colour sensitometry becomes daily of greater importance. An Ansco colour densitometer has been found ideal for this purpose.

Optical Printing

The modern laboratory is required to be well equipped for optical printing. Newest acquisition at Denham is the Acme-Dunn optical printer—a truly amazing machine in which every conceivable movement is effected simply by pressing a button. It has interchangeable heads to permit of its being used for 35-mm. or 16-mm. A Debrie Truca has also been in use for a number of years. In addition, the two optical printers and the projection printer designed by Ned Mann during his stay at Denham studios have been rebuilt and are again in use. All the mechanical work is in charge of Walter Sadler.

Finally, the projection room would delight the heart of any projectionist. Three theatres are arranged side by side, and the single projection room serves all three. It contains four Gaumont-Kalee "21" outfits and a Kalee. The two machines serving the dubbing theatre have clover-leaf heads, and there are, in addition, four dummy heads, so that six tracks can be run at once.

Two new projection theatres for 16-mm. are now being installed.

THE YEAR'S FILMS IN BRITAIN—continued

*The Browning Version	Edward Baird: GFD
RIVERSIDE	
The Happiest Days of Your Life	London Films: Brit. Lion
She Shall Have Murder	Concanen: Independent FD
The Six Men	Vandyke: Eros
One Wild Oat	John Croydon: Eros
A Tale of Five Cities	Maurice Wilton: Grand National
The Galloping Major	Sirius: Independent FD
SHEPPERTON	
†Gone to Earth	Archers: Brit. Lion
Night and the City	Sam Engel: 20th-Fox
Seven Days to Noon	Boulting Bros.: Brit. Lion
The Wooden Horse	Wessex: Brit. Lion
The Mudlark	Nunnally Johnson: 20th-Fox
Pandora and the Flying Dutchman	Romulus: Independent FD
*†The Tales of Hoffmann	Powell and Pressburger: Brit. Lion
SOUTHALL	
Twenty Questions Murder Mystery	Victor Katona: Grand National
Murder by the Book	Tempean: Eros
Blackout	Tempean: Eros
The Second Mate	John Baxter: ABFD
Quiet Woman	Tempean: Eros
TEDDINGTON	
All on a Summer's Day	Harry Reynolds: AB-Pathé
Shadow of the Eagle	Valiant: Brit. Lion
I'll Get You for This	Kaydor-Romulus: Independent FD
Flesh and Blood	Harefield: Brit. Lion

* Not yet completed. † In colour.

Films Awaiting Trade Show

"Black Widow, The," Exclusive; "Blackmailer, The," HH Prods., GFD; "Captain Bulldog Drummond," MGM-British, MGM; "Captain Horatio Hornblower," Warner-First National, Warner; "Dark Light," Exclusive; "Franchise Affair," ABPC, AB-Pathé; "Flesh and Blood," Harefield Prods., British Lion; "Galloping Major, The," Sirius-Independent FD; "Green Grow the Rushes," ACT, British Lion; "Happy Go Lovely," ABPC-Marcel Hellman, AB-Pathé; "Honeymoon Deferred," Vic Films; "Highly Dangerous," JARO, GFD; "Into the Blue," Wilcox-Wilding-Neagle, British Lion; "Irish Immigrant," Film Studios Manchester, Mancunian; "I'll Get You for This," Romulus, Independent FD; "Lilli Marlene," Monarch; "Long Dark Hall," Five Ocean, British Lion; "Late Edwina Black, The," Elvey-Gartside, Independent FD; "Man Detained," Ind. Artists, GFD; "Midnight Episode," Theo. Lageard, Columbia; "Mrs. Drake's Duck," Daniel M. Angel, Eros; "Mudlark, The," 20th-Fox; "Murder by the Book," Tempean, Eros; "Old Mother Riley's Jungle Treasure," Renown; "One Wild Oat," John Croydon, Eros; "Pandora and the Flying Dutchman," Romulus, Independent FD; "Quiet Woman," Tempean, Eros; "Rossiters, The," Exclusive; "Scarlet Thread, The," Butcher-Nettlefold, Butcher's; "Smiling Irish Eyes," ABPC, AB-Pathé; "South African Story," Mayflower, GFD; "She Shall Have Murder," Concanen, Independent FD; "Second Mate," John Baxter, ABFD; "Tom Brown's Schooldays," Renown; "To Have and to Hold," Exclusive; "Tale of Five Cities," Grand National; "Third Visitor," Elvey-Gartside, Eros; "Wonder Kid, The," Gene Markey, British Lion.

SOUND-PROOFED GENERATOR FOR LOCATION WORK

CLAIM that its sound-proofed mobile generator can be used within a hundred yards of actual location shooting without disturbing the sound track is made by Lang Wheels (Mfg.), Ltd., of Hillingdon Heath, Uxbridge, Middlesex.

The new generator was given its first production test some time ago on the J. Arthur Rank production, "Highly Dangerous," and proved satisfactory. That a Pinewood film should prove the efficiency of the apparatus was appropriate, for the generator was originally designed in co-operation with F. V. Hauser, engineer and electrical adviser to JARO at Pinewood. Three more similar generators at the Associated British Picture Corporation studios at Elstree are soon to be fully sound-proofed.

Light But Sturdy

In the design special consideration has been given to the combinations of lightness, sturdiness and sound-proofing. The steel framework, which has aluminium panels, is lined throughout with Burgess acoustic material. Ceiling, side and roof panels are all 6 in. thick and there are inspection doors on both sides of the vehicle, which is 29 ft. 6 in. long, 12 ft. high and 7 ft. 6 in. broad. Easy starting in very cold weather is facilitated by electric tube heaters, which can also be plugged into the mains when the unit is in the garage.

The generating plant includes a Paxman 12-cylinder vee-form oil engine of 7-in. bore and $7\frac{3}{4}$-in. stroke, with a rating of 500 b.h.p. at 1,250 r.p.m., but derated in this case, to suit the generator, to 300 b.h.p. at 900. r.p.m.

It is coupled to a Lancashire Dynamo and Crypto 200-kW. 120-volt DC generator. This is a one-hour rating because the machine is of light construction to give a big reduction in weight. A thermocouple is fitted to the generator to enable a check to be kept of the temperature while running. This is recorded on a Cambridge indicator mounted on the main switchboard, which is in the driver's cab. This switchboard is of Foster manufacture and provided with three circuit breakers for the splitting of the load when necessary, also the necessary instruments and controls, with a push-button for engine starting.

Interchangeability

Engine and generator are fitted on a common baseplate which is mounted on ten Metalastik units —six for the engine and four for the dynamo. This is borne by a Foden chassis (type DG 5/12) specially strengthened and adapted for the purpose; it is powered by a Gardner LW-type six-cylinder oil engine (4.25-in. bore by 6-in. stroke) of 102 b.h.p. at 1,700 r.p.m.

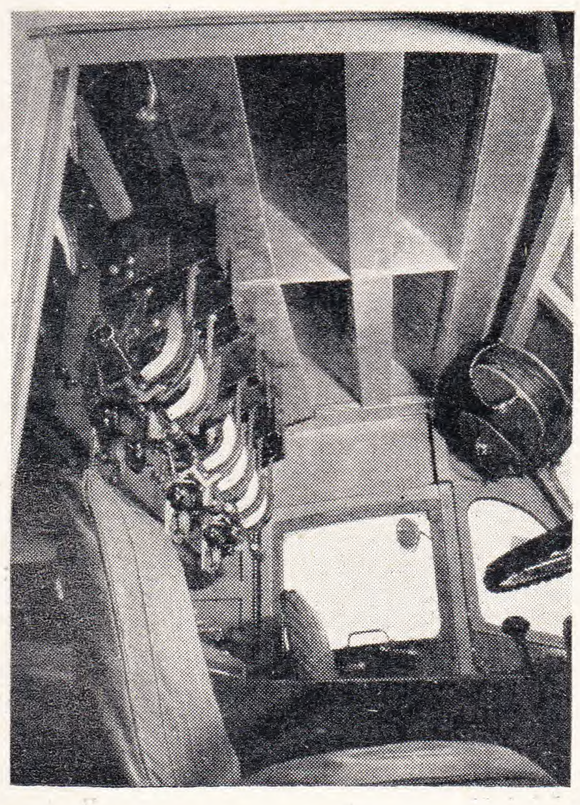
This type of Paxman engine is built from a number of self-contained assemblies; this results in a design which is easily handled for maintenance operations, and demands no craning facilities other than the lightest of hoists. In addition, strict interchangeability of parts and component groups is an added advantage. As one example of easy stripping the camshaft assembly can be removed *in toto* without disturbing the cylinder blocks or heads.

Cooling of the Paxman engine is by means of a tropical radiator and fan. Radiator capacity is 50 gallons, and soft water is used. Air for cooling is taken through louvres in the driver's cab and expelled by the radiator fan at the rear of the vehicle through 13 splitters. These splitters are lined with acoustic material, each being 6 ft. by 3 ft. wide by 3 in. thick and $2\frac{7}{8}$ in. apart from each other. They are the means of breaking up the air, reaching 24,000 cu. ft. per minute at full engine speed, thus reducing to a minimum the noise of the plant emanating from the rear of the vehicle.

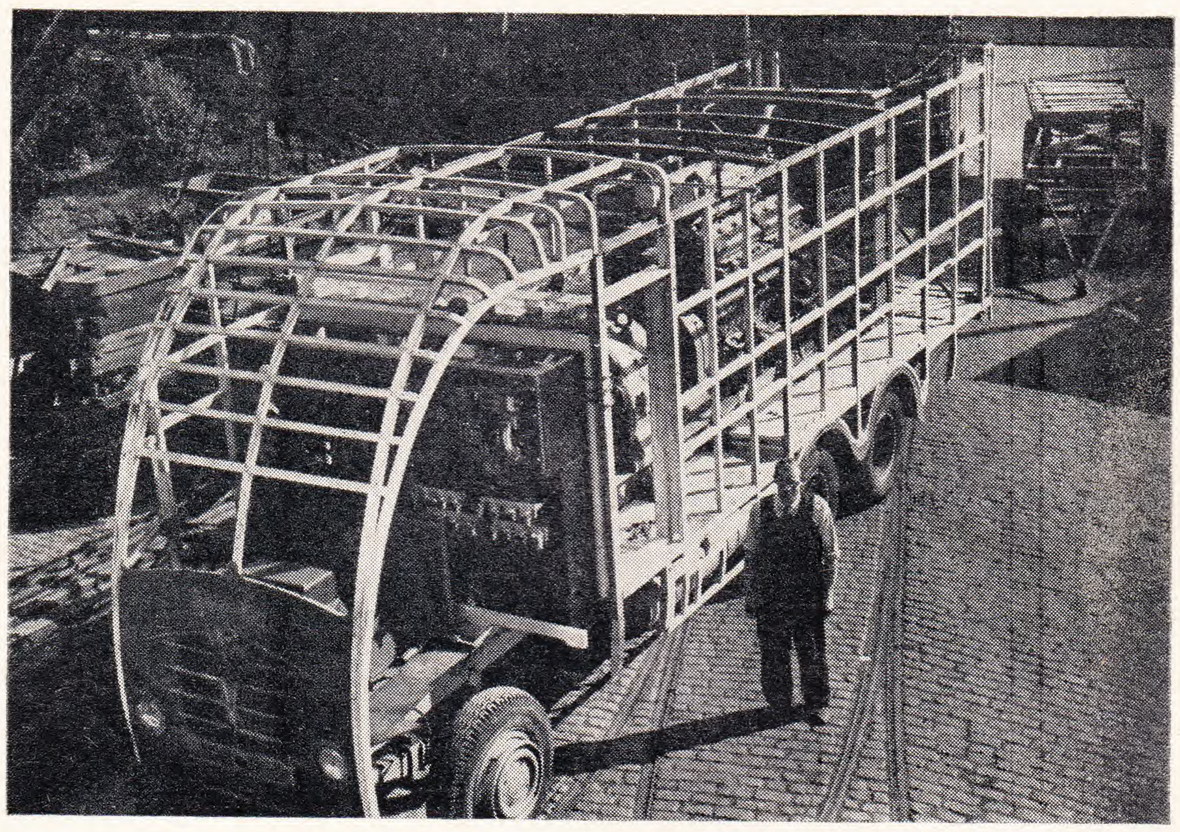
Exhaust Through Roof

The exhaust from each bank of cylinders passes through the roof of the van into a Burgess silencer and snubber. The silencers and snubbers weigh approximately 8 cwt. and are fitted in a recess in the roof of the vehicle. This arrangement has eliminated the exhaust noise problem.

Electric energy is employed for engine starting, a battery being provided for this purpose. The latter is kept charged by means of an engine-driven dynamo. The fuel supply carried on the vehicle is sufficient for about 10 hours' running at full load.



The mobile generator seen from the driver's seat, with the air intakes (above) and switchgear breakers between seats



General view of the mobile generator, made by Lang Wheels (Mfg.) Ltd., showing timber and metal framework, prior to skinning and sound proofing

Colour Temperature Meter Will Aid Sequence Matching

FOR the maintenance of an accurate balance of colour and the satisfactory matching of sequences in colour film production, the precise and rapid measurement of the colour of the light sources is essential.

The colour of lights approximating to white is conveniently expressed, to an adequate degree of accuracy, in terms of colour temperature, which term is defined as the temperature to which a black body must be raised to match the light in question. The colour temperature is measured in degrees Kelvin or absolute temperature.

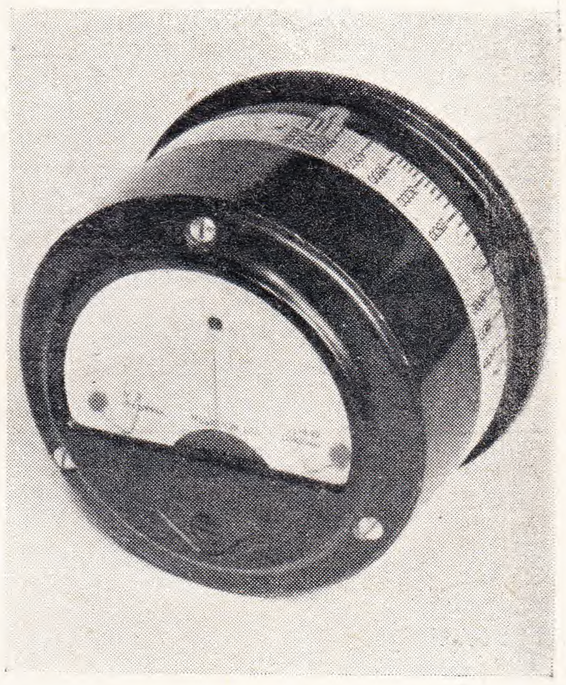
The method of measurement of colour temperature which has been employed for many years consists in comparing the energy content of the light in the two halves of the spectrum or, roughly, in the blue and red regions. Thus, in visual instruments, the transmission of a dichroic filter has to be matched with that of an amber wedge, while in photo-electric types the output of two cells, having red and blue filters, is compared.

In the Megatron meter illustrated two semi-circular photo-cells are mounted respectively behind blue and red filters. A very simple circuit is used, the two cells being connected in series, with the central-reading galvanometer bridged across the two mid-points, so that when the output of the two cells is equal, the meter will read zero.

The two filters are covered by a rotatable mask which carries the scale. In use, the scale is first turned until all the red glass and none of the blue is exposed; the light source is sighted through the hole in the dial, and the user adjusts his position until the pointer of the meter reaches full-scale deflection.

The shutter is then rotated until the pointer returns to zero, as seen through the viewing hole. The colour temperature is then read off on the scale.

The Megatron meter has an open scale ranging from 1,800 deg. to 8,000 deg. K. Each meter is individually calibrated with tungsten light up to 3,000 deg. K, and with tungsten light and Chance OB9 glass filters from 3,000 deg. K. to 8,000 deg. K.



The Megatron meter measures $3\frac{1}{2}$ ins. diameter by $2\frac{1}{2}$ ins. deep, and weighs 21 ozs.

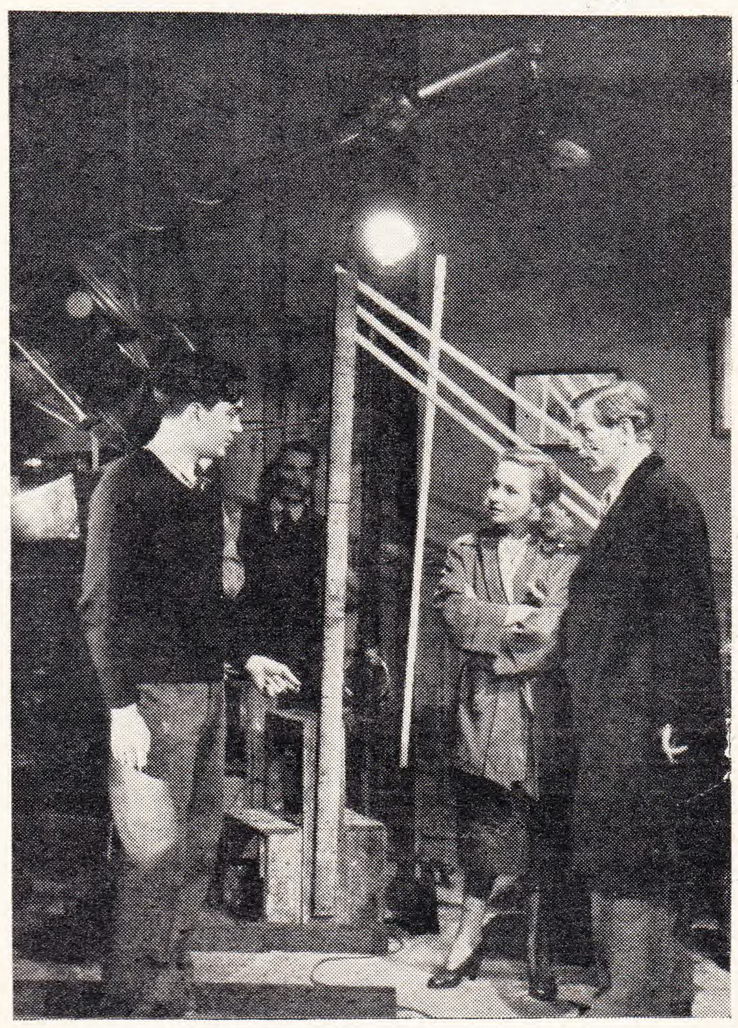
NEW SUB-TITLING SERVICE

A new sub-titling service has been started by Ideal Film Laboratories, London Film Studios, Isleworth. Middlesex. The company, formed some months ago, is associated with Filmtekst A/S, Bygdo Alle 23 VII, Oslo, Norway, and Ideal Filmlaboratorier Aktiebolag, Sandhamnsgatan 39, Stockholm, Sweden.

Economic strait jacket tightens on directors

BUT FIGURES ALONE DON'T SHAPE FILMS

Says ALEXANDER MACKENDRICK



The author directing a scene from THE MAN IN THE WHITE SUIT

FILM directors, who are generally a bit neurotic in the first place, are developing a new persecution complex. It's those little men who do sums! The people who calculate averages, analyses and statistical charts, experts who put fear into the hearts of folk who do not understand this new and malignant magic.

We would like to ignore them, but it is becoming increasingly difficult to shut our eyes to the simpler propositions of their horrid arithmetic. Kinema takings are down. Labour costs are up. Costs of materials are up. And in the two-way squeeze there seems to be only one thing that produces any real saving—speed.

The figure that haunts us is the "screen time per day." A Government report pointed out that the industry cannot be solvent unless we shoot an average of two minutes of the final film each day. At the time the report was issued the average for better-class films was considerably nearer one minute and the target set seemed pretty high. Since then the economic strait jacket has been tightened several notches but a good many of us are not achieving that figure.

Question of Time

Everybody agrees (except directors) that the tempo of film-making depends principally on the director. The director, on the contrary, is more inclined to blame the cameraman. Surely, he argues, the lighting of a scene, though it contributes considerably to the polish of the film, seldom matters as much to the public as, say, the intensity of acting performance! Why then should the lighting require more time than is required to work out the position and movement of camera, rehearse the actors and shoot the scene? The battle continues and is unlikely soon to be resolved. But meanwhile the statistical experts are able to show that while one cameraman is regularly faster than another, the same cameraman will work faster and slower according to the director in harness with him.

So the pressure for shorter schedules is mostly on the director. Films that a year or so ago took twelve and thirteen weeks to make are now turned out in ten. First-class features which show no apparent lowering of technical standards are being made in eight weeks and less.

To American ears this sounds a very tame boast. Hollywood frequently makes equivalent films in much less than half our time. But to be fair one must take into account some of the advantages of working in studios with more space, more, and occasionally, better equipment, and with a much larger output. They are able to develop systems that are almost impossible here. With more stages and lighting equipment available they can "pre-light" sets and leave them standing until the unit is ready, and move from one stage to the next with hardly a moment's delay. They find that they can keep camera units working for years together in the same team so that they develop the efficiency of long habit. A "gaffer" electrician will know the taste of the cameraman so well that he has half of the job done in advance.

More important still is the training ground for junior technicians provided by the second-feature industry. These set a standard for efficiency which the others have to live up to. For the director particularly it must be superb schooling in the pure mechanics of his craft and the fact that scripts don't often call for much subtlety of treatment may make them all the better as exercises.

Balance Necessary

But the chief difficulty with a scientific approach to the industrial habits of film-makers is that it involves a balance between two things that nobody knows how to equate. We need more entertainment turned out in shorter time. But the managerial minds that can show the best way to co-ordinate the things that control working speed are frequently out of their depth in trying to measure entertainment. And, conversely, the genius with an intuitive sense of box-office values is quite unable to understand the logic of the efficiency expert.

An efficient director who makes a dull film may be much more wasteful than a tiresomely impractical director whose work is pure gold at the ticket window.

Understanding of this paradox leads most men who have experience of this maddening industry to insist that the only rule is that there isn't any rule. Yet—final paradox—even this rule isn't wholly true. Perhaps the figures are of considerable value in a negative way. They may never provide the answer of how it should be done, but they can be frighteningly accurate in showing up mistakes. They can set down in ugly numbers facts to be used in evidence against any of us who become irresponsibly temperamental.

On Going Fast

What makes a fast director?

Are there any general principles? Is it, for example, the man who limits himself to a minimum number of "takes" for each shot?

Not necessarily. This was a point sensibly pointed out in one of the reports. If a director is severely limited to the number of times he is allowed to try a shot he will obviously decide that he must take more time in careful rehearsal to be sure that the scene is perfect before he starts. Since time has been proved to be the most expensive of all the commodities, this may be no economy. It might have been better to risk an early rehearsal on film, gambling the lesser cost of film stock against the lucky chance of a shot that is quickly in the bag.

Is it the director who works things out in advance, planning each shot in meticulous detail? Surely this is bound to mean quicker work free from the slightest delay of indecision?

Until recently I was convinced of this. It seemed to me obvious that pre-planning could never be too thorough. I felt so strongly on the subject that I worked out a system in which each individual shot was drawn with camera positions and movements plotted in detail. We went so far as to have these reproduced in mimeograph opposite each page of shooting script.

The system was hailed enthusiastically by most of the technicians on the floor. In particular, the administrative folk found it a help in the day-to-day tactics of organisation.

Pitfalls to be Avoided

But having taken this formula to an extreme I am now having doubts about it. Does it, in fact, make the shooting go faster? I'm not sure. One danger is that the director crystallises his ideas at a stage long before he can realise any of the thousand tiny snags that may be involved in shooting the shot precisely that way. He should, naturally, be able to adjust the conception and generally does so. But, having committed himself to one idea there is likely to be a certain reluctance to discard it in favour of a new one which may be just as good and simpler.

A further danger, more serious in a different way, is the effect on the actor who feels he is being moved around like a puppet making movements and gestures in a preconceived pattern. And even if this isn't true, there is the possibility that the actor may *think* it's true, which is equally damaging.

I'm sure now that the extent to which a director should plan ahead is very much a

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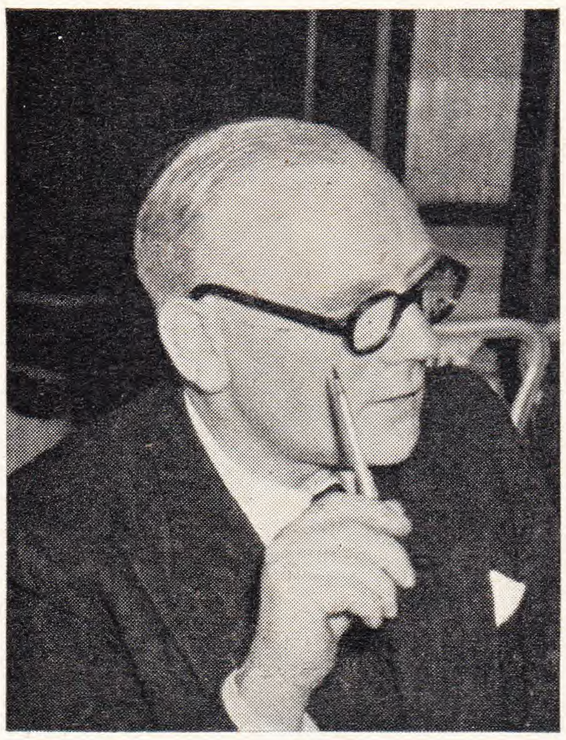

THE MONEY

By The Executive Watchdog

VAUGHAN N. DEAN

The studio general manager at ABPC, Elstree, explains how the executive side calculates the pounds to be spent on a picture and checks costing daily.

NO one can manufacture films by mass production as one might, for instance, a tea-cup or a motor car, but that does not mean that we on the production side of the film industry live in a dreamland of uncontrolled expenditure.

Indeed, the reverse is the case. Though thousands of pounds may, and do go into the making of a first-class British feature, I would challenge any comparative business to show a more detailed system of financial control during the actual process of "manufacture."

At Elstree we have, perhaps, an even closer link than most between the administrative and the artistic sides of the production industry, for, in my capacity as studio general manager, I am also responsible, under Robert Clark, executive director of production, for the executive side of individual productions, sharing this responsibility on alternate films with Hamilton G. Inglis.

Before the corporation is committed to a budget, whether it be for one of our own films or for one by an independent producer under the NFFC group scheme, I read the treatment or the first draft script in order to ascertain how much the film would cost.

This is difficult because, at that stage, there are quite a lot of unknown quantities, such as who is to direct and who will act in it; but allowances can be made reasonably accurately for these items, and it is surprising how closely one can estimate.

Rough Breakdown

Most of the costs emanate from the studio facilities and the general requirements for shooting, and these are estimated by a rough breakdown of the script into items such as sets, props, wardrobe, laboratory charges, and a rough order of shooting.

Cost mostly bears on the question of time. Materials are difficult to assess owing to the constant fluctuation of prices, but normally we find that we can allow for materials for set construction half to two-thirds of the labour costs incurred in erecting the sets.

Once it has been decided from the rough estimate that a film should be made, the producer, director, art director, production manager and the heads of departments are called in and a final detailed budget is prepared. The result of this joint preparation is the yardstick by which the actual shooting is controlled.

When the final estimate is agreed the production becomes largely a studio job. The studio allocates a unit of technicians—it already has its staff of craftsmen—and the film is cast. The casting budget is normally a round figure that is exclusive of the salaries of stars, who are theoretically expected to bring back at the box-office the value of their earnings, plus something more.

From the moment a picture starts production a constant watch is kept on expenditure, through detailed daily costing sheets, which show where costs are likely to exceed the budget, and where corresponding savings can be made.

A director has to be allowed a certain amount of freedom. There are times when he may have an idea which, after consultation, is agreed would be of value to the film. Then it is usually possible to make a corresponding saving elsewhere if his idea entails an addition to the agreed budget cost.

To critics who may pounce on this and say: "If you can make a saving at that stage, why did not you make it earlier?" I would reply that ours is a creative, artistic industry and you cannot manufacture films entirely by rule of thumb.

Further financial control is maintained by a system whereby all orders and requisitions have to be signed and approved by the studio management. This is a very valuable check, particularly in securing a full and economic use of such things as transport.

Sets and Dresses

Set construction is a large item in the budget of any film, and once the set designs and drawings are completed and approved, no alterations are permitted until they have been discussed and approved by the studio executives. In the past there have been at times tendencies to overbuild sets or extensive and expensive alterations to sets after the original plan had been fixed.

The same care is observed over set dressings, and that the value and hire charges of the articles rented are reasonable. We try to avoid hiring carpets that are not likely to be seen in the picture, and the administration pays frequent visits to the set during shooting to see that every article ordered is actually in use.

On the laboratory and film stock side there is an equally careful check to ensure that directors and editors do not waste stock. The numbers of takes shot and printed are watched, because that is where a great deal of money can easily be frittered away. Here again there is an inevitable clash between the administrative and the artistic elements. Directors and editors sometimes order extra prints for rushes and cutting merely because of unevenness in quality. I have even known them ask for reprints of picture material for dubbing.

Full Co-operation

That seldom happens now. Our system has reached a point where we can rely on the full co-operation of most directors and editors. They know exactly what we will normally allow, but they also know that we do not refuse any reasonable request.

One main reason why pictures used to cost more than they should do was the time lag between coming off the floor and the final print being prepared. In our case, just as the shooting time is scheduled for a certain period, so now is the cutting and editing. The average time allowed for completion of the rough cut, final cut, composing and scoring of the music, preparation of effects and final dubbing is eight-ten weeks, depending on the nature of the film. I do not think it can be done more quickly.

One of the main preoccupations of a large studio is its labour force. At Elstree, including scenario, legal, casting and clerical departments, we have a total of around 600. They come under three main unions, NATKE, ACT and ETU, and the working conditions between employer and staff are at present controlled by no fewer than nine separate agreements; that creates quite a nice little problem for a management.

I am hopeful, however, that the efforts now being jointly made by the three unions with the BFPA, under the auspices of the JIC, will produce a comprehensive agreement covering all classes of labour; such an agreement would simplify our job immensely.

Contained in the agreements now being observed is the condition of overtime working. It is true to say that, if there were unlimited space in the studio, overtime could be considerably curtailed, but where a production can normally be allocated only two floors, overtime, on set construction particularly, becomes essential. It accounts for about 10 per cent. of the total hours on an average black-and-white production.

Secret of Success

One of the secrets of successful studio management is the correct devolution of duties to heads of departments. At Elstree we follow this rule and put it into practice by holding daily conferences on every production that is on the floor. All departments are then kept fully aware of what is going on and what the requirements are for the immediate future. These meetings seldom last more than ten to fifteen minutes, but they are probably one of the most valuable parts of our production set-up.

Our constant endeavour is always to get more screen time per day. Our aim is ten set-ups and 2½ minutes a day. It is one of the hardest jobs I have ever tackled, but there are encouraging signs: one is the growth in the studio of a friendly rivalry between assistant directors to try to beat each other's daily screen time. That is the right spirit.

Can films be made more cheaply and more quickly? I doubt it, if we are to preserve the standard of our product so that it can compete on equal terms in world markets.

The industry is passing through a severe economic phase, but this has been realised by the Government, and if the Eady plan is allowed to succeed it will make things a little easier for us on the production side.

on THE FLOOR

By The Unit Economist

W. A. WHITTAKER

" We watch the pence as well," says the production manager, detailing the rules of economy that keep cash from straying while the cameras turn.

THE Chancellor of the Exchequer has nothing on a production manager on the question of working to a budget. The Chancellor, indeed, has the advantage: if he goes over his budget he can extract the deficit from elsewhere, and, if he makes a surplus he is complimented on the fact, instead of being criticised for bad estimating.

The production manager, on the other hand, is in the unusual position of helping to set his own financial boundaries, for he has a large part, in conjunction with the other production executives, in preparing the final estimate of expenditure that eventually becomes the budget of a film. From the moment that estimate is accepted, little but an unavoidable force is allowed to alter it—except in a downward direction.

The Start

My job starts when the studio executive has approved its rough budget estimate and decided to go ahead with the production. In practice, the transposition of the estimate from the rough or general to the detailed or particular, results in surprisingly few clashes.

I have yet to hear of a picture considered to be not expensive enough. If there are alterations to be made they are usually in the opposite direction. The script may have to be altered to cut out some item considered to be disproportionately expensive, or scenes are revisualised in a simpler form. Casting ideas may have to be changed, but the difference is seldom so great that a satisfactory solution cannot be achieved.

Hand in hand with these go a careful timing of the script which, together with a check as shooting progresses goes a long way towards ensuring that the picture does not run overlength and that scenes, and therefore money, do not end up on the cutting-room floor.

Over-Schedule Reasons

When all this has been agreed and everyone has accepted a final top figure, the rest, in theory at least, should be plain sailing, and, actually, in my own experience, productions have not wandered very far from the original schedule.

There are three main reasons why pictures do sometimes go over schedule :—

(i) The picture was under-scheduled in the first place.

(ii) It is being covered more fully than was visualised when the schedule was made out.

(iii) Alterations to the script after production has started.

Obviously, the first of these points has passed the stage where any adequate remedy can be applied. Bad planning will always waste money in any industry.

The second fault is covered and checked by the daily conferences and the detailed watch that the producer and studio administration keep on such matters. Nowadays such tendencies have little opportunity of growing into habits.

The third fault seldom arises in this studio to an extent likely to affect schedules appreciably.

It is an axiom that the speed of a production is the speed of the director and his lighting cameraman, but a big difference can be made if the rest of the unit is on its toes, each individual not only doing his job properly, but, equally important, anticipating what is going to be required of him or her next. This extra fillip to efficiency springs mainly from having units that are not only experienced in their jobs, but are also experienced in working with each other.

It must be remembered when considering time that the work of the director, the artists and the camera team is personal and creative and " output " cannot be assessed with the same accuracy as in a manufacturing process.

Thus, there are occasions when overtime becomes necessary. I have heard it said that the lower-paid staff welcome overtime because it means more cash, and the chief technicians (who get no extra pay) accept it because they have an artistic stake in the film. My experience is that the lower grades of staff often have as great a personal interest in the film as has anyone connected with it.

Obtaining agreement to overtime is never simple, but generally speaking, providing an unforeseeable situation has arisen which might cause serious dislocation of the production if overtime is not worked, we can usually rely on the co-operation of other members of the staff.

On location, of course, and particularly on foreign location, the production manager has greatly added responsibilities, for he becomes then the representative of the administration as well as of the producer. One frustrating problem then is the job of reconciling the requirements of our own trades union agreements with the requirements of foreign groups and unions. In many cases abroad there is no question of negotiation; you are forced to employ native technicians.

Supernumaries

For key tasks and the handling of our valuable equipment, it is natural that we take our own staff and this often means that before we are permitted to enter the foreign country, we have to engage foreign technicians, although they may be entirely unnecessary for our work.

Apart from topsy-turvy circumstances like this, which are, after all, not the fault of the kinema industry, so much as of language, race and government, my experience has been that no department in film production nowadays wilfully tolerates waste, either of money, or of time. Today we are thinking hard in terms of pence and of seconds.

U.S Says "Music British Maestro, Please"

THE real star of the Press reception to discuss Warner's plans for making the film of the successful American musical version of " Charley's Aunt " at Elstree was Louis Levy. Because, for the first time, a major American company is going to make a Technicolor musical in Britain—and give the musical direction to a British musician.

One can appreciate Hollywood's reluctance to put British technicians in key jobs. It is not that Hollywood doubts their skill : it is just that Hollywood *knows* its own men and a producer visiting a strange studio has a sense of security when they are around.

The appointment of the ABPC studio musical director to take charge of " Where's Charley?", which involves handling the score of American composer Frank Loesser, is a landmark in the development of Anglo-American production relations. But when one remembers that Levy was the driving force behind Cochran's last great success, " Bless the Bride." there is little doubt about the technical quality and artistic merit we can expect from the Warner production.

Levy has not lost touch with public reaction to popular music. He has learnt from his experiences in the silent days, when he arranged music for London kinemas, among them the New Gallery and Shepherd's Bush Pavilion. It is said that he was the man who started the " theme tune." Certainly he was responsible for setting the pace in the early musicals—" Sunshine Susie " and " Limelight "—which gave the lead to Hollywood. And who has forgotten the Gainsborough films with Jessie Matthews?

He will talk for hours about the problems of making musicals in Britain, particularly the economic problem that, now the early days are past, musicals must cost much to make or they cannot be made at all. To compete with Hollywood, our producers must be prepared to spend £100,000 on the musical side of the picture alone : to say nothing of his laments about the lack of talent in Britain.

How does he decide what music will be acceptable to the public? He admits that nearly fifty years' experience can only give him a guide in public taste which can be as wrong as week-end weather forecasts. But his public concerts help him to feel public reaction to modern music. Later this year he starts another series of " Music from the Movies " programmes on the BBC, and in 1952 is due to go to Australia to conduct the Melbourne Studio Symphony in a series of concerts.

It is such experience which has made him the most versatile musical director in British studios, which enabled him, after work on more than 200 pictures, to do such a superlative job on " Happy Go Lovely." And which has won him the confidence of Hollywood.

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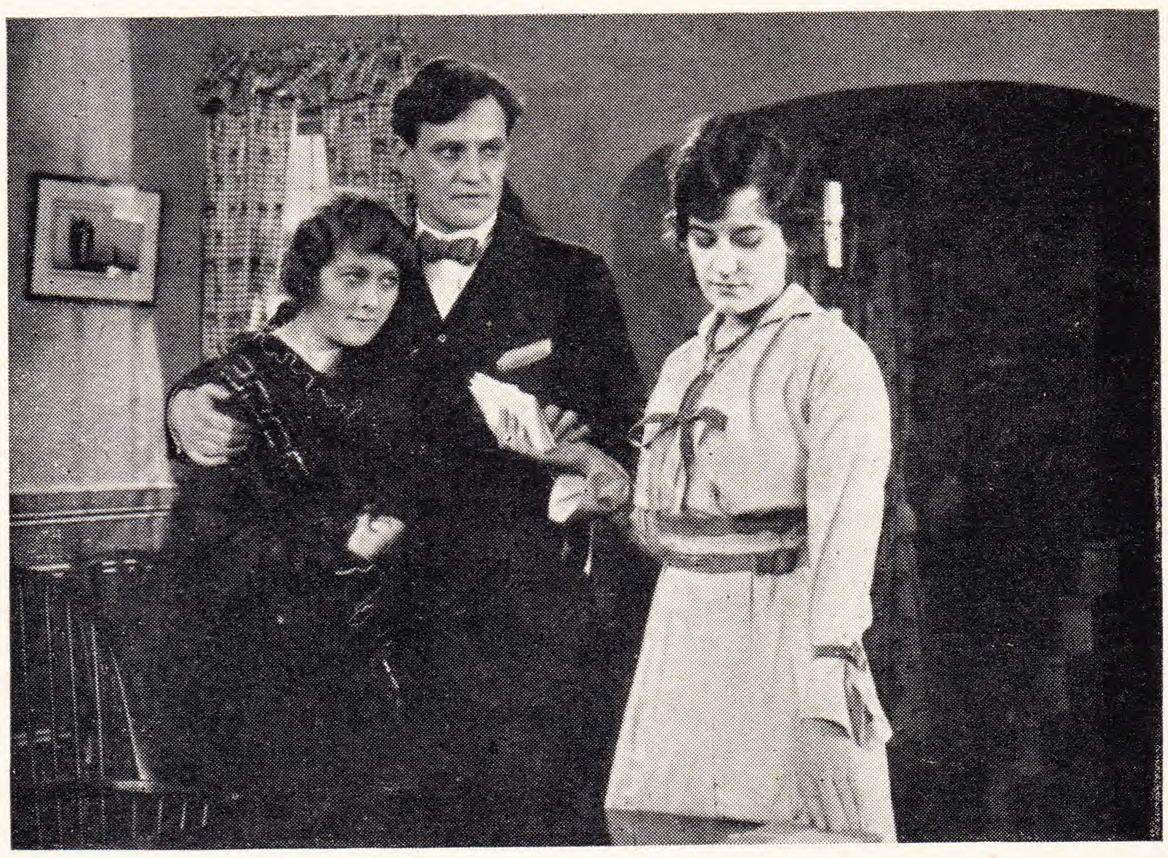
ALL IN HIS LIFETIME

HEPWORTH REMEMBERS

The fascinating story of the early days of film making is told by Cecil Hepworth in his book "Came the Dawn" which is reviewed for "Studio Review" by P. L. MANNOCK, at one time script writer for him.



Stars of yesterday who made world-wide reputations: Violet Hopson, Henry Ainley and Alma Taylor

CECIL M. HEPWORTH has at last done what many of us have hoped for years—written his memories; and done them so well that it is impossible to believe anyone else could have performed the task more thoroughly or so absorbingly.

His book, *Came the Dawn*, is, in fact, a kind of literary documentary, humanised by the author's decision never to write an impersonal survey in the manner of the historian, but to set down his own matchless experience as a pioneer of technique and guiding spirit of a production company which set itself the highest standards and left its mark and example as a part of movie progress. His many achievements in the more primitive days of the motion picture are recorded with no trace of boastfulness, indeed with a quality of modesty seldom encountered and perhaps not much encouraged in the industry.

Hepworth's father, who wrote photographic articles and was, among other things, a popular scientific lecturer, did nothing to discourage Cecil's infant interest in electrical and camera processes. At four years old the boy bought ninepenny sheets of sensitised paper and made prints from old negatives; and his thrills at the old Royal Polytechnic Institution in Regent Street included the magic lantern with trick slides.

Lantern Operator

At 18 the boy from Camden Town worked the lantern at an electrical exhibition at the Crystal Palace; and in July, 1893, Birt Acres roped him in as assistant to look after the electric lamp at a private showing in Marlborough House of the film of the wedding of the Duke of York to Princess Mary of Teck. At that time he had never heard of films, but was too absorbed to become very excited, even when the Prince of Wales (later Edward VII) came over to chat with him.

His first camera he made himself at a cost of tenpence; and the first movie camera in his hands was owned by Thomas R. Dallmeyer, who took him to film the 1897 Diamond Jubilee. At the critical moment it jammed! After meeting Robert W. Paul and a spell in an office, he took a shop in Cecil Court, Charing Cross Road, with his cousin, Monty Wicks, to sell cameras and dry-plates. Soon he was travelling with a projector, showing a hashed-up mixture of slides and bits of throw-out film. Next he joined Charles Urban and the Warwick Trading Company, his first job being to film the Boat Race of 1898 from the top of a factory building, developing it on primitive lines in a Gray's Inn Road cellar.

Unaccountably sacked by Urban, Hepworth and Wicks rented a villa at £36 a year in a side road at Walton-on-Thames to embark on processing for the trade. In slack times they began to make their own 50-ft. films; and the very first Hepworth film, in 1899, was "Express Trains in a Railway Cutting." They sold all they made; and presently Cecil evolved a camera to take 1,000 ft. of film on a spool.

Money in News

He was launched. News pictures paid most. Queen Victoria's visit to Dublin; the return of Ladysmith heroes in HMS *Powerful*, and the 1900 eclipse of the sun were typical. Then the necessity of indoor sets arose. They rigged up a sort of stage in the back garden, 15 ft. by 8 ft., with a few upright posts against which scenery flats painted by Hepworth could be propped. No one at that time even thought about indoor studios; daylight was the one form of illumination. But output was steady, including many trick subjects, and the earliest close-up. used in "The Kiss," long before Griffith. About this time he married; and his wife soon found herself playing the White Rabbit in "Alice in Wonderland" which ran 800 ft., a record length up till then. "Rescued by Rover," written by her and acted by both, with their eight-month baby, was the success of 1905; it had to be remade twice; and Mr. and Mrs. Sebastian Smith, paid half a guinea each, were the first professional actors employed at Walton. The little company by now had recruited Stanley and Geoffrey Faithfull and a 14-year-old lad, Tom White, today general manager at Pinewood.

Hepworth's glass studio, at first-floor height, was the first indoor one in the world. With adjustments and extensions over the years, and rebuilding after a fire, it remained for over twenty years, Hurst Grove becoming the first little production colony in the country, with offices in town, first back in Cecil Court and later in Denman Street. When Unity More was unable to follow up "Tilly the Tomboy," two local little girls, Chrissie White and Alma Taylor, kept the series going—and stayed to become the first British stars.

Always an inventive genius, Hepworth evolved a system of synchronisation with a gramophone, the Vivaphone, in 1910. Bonar Law and F. E. Smith (later Lord Birkenhead) made "post-sync." records with it for propaganda; Lloyd George jibbed at the idea. It had a run for several years.

Walton's Weekly Output

How prolific were the 1912 days! Every week from Walton came three or more short dramas from 500 to 1,000 ft. long, besides two Vivaphone subjects. Early actors and actresses included Alec Worcester, Gladys Sylvani, Hay Plum, Marie de Solla, Ivy Close, and Flora Morris. Thomas Bentley made a 4,000-ft. "Oliver Twist." Larry Trimble came from Vitagraph to produce "Pickwick," with Florence Turner, and John Bunny, then the best-known star in the world, as Pickwick. Soon Sir John Martin Harvey did "A Cigarette Maker's Romance," and Forbes-Robertson, "Hamlet," a plaster Elsinore Castle for which was built at Lulworth Cove.

Alma Taylor in a scene from COMIN' THRO' THE RYE

Stewart Rome, Violet Hopson, Henry Edwards, George Dewhurst, James Carew, Eileen Dennes, Gerald Ames—these names impinge on my own service with Hepworth and the Kimberleys, only severed by the failure of his flotation in 1922, beginning of a general slump, partly eased by the desperate, but on the whole, effective remedy of the first Quota Act. But by that time Hepworth's star had waned.

The book abounds with fascinating tales of struggle, problems and reverses on the part of a man of quiet courage, integrity and creative imagination whose name will always be honoured. Today, at 77, he is making 16-mm. stereoscenic sound films in colour, and is happy in a job which takes him into the outdoor British scenery which he, more than anyone, has brought to our screens. Countless old stills and some excellent drawings by him decorate this unique volume; but it is the revelation of a pioneer and his personality which makes it so much more than an authentic record.

"*Came the Dawn.*" (*Phœnix House.* 16s.)

BB

THEY DRESS TO FILM

Berman's Sixty Thousand Costumes Help to Clothe Threequarters of British Product

TALKING to Monty Berman who describes himself as general factotum of M. Berman, Ltd., the film and theatrical costumiers, is like listing a catalogue of feature production in Britain.

In his office at 18, Irving Street, W.C.2, Mr. Berman works in a room whose walls are covered with signed portraits of stars of all nationalities. He reckons that the firm has a hand in dressing three-quarters of all the features made here and that at least 50 per cent. of the Berman business is directly concerned with the kinema.

Ahead at the Empire

It is not all on production. There are, for instance, the stage shows at the Empire, Leicester Square, for which about 100 costumes are required every three weeks. Four or five months ago Berman's were working so closely to requirements that they were sometimes supplying even as late as the dress rehearsal, "but," says Mr. Berman, "owing to the wizardry of Nat Karson, we are now three shows in advance.

"Speed in service has always been one of our principal aims—the other is constant courtesy to the customer from every member of the staff."

How many costumes does Berman's keep in stock in its premises, that consist of a basement and five storeys? Mr. Berman does not like to be quoted on an exact figure, but when they made a rough check recently the number came out at about 60,000, and nearly every costume had boots, belts or other accessories to match.

Always Something New

"Even so," said Mr. Berman, "it's a good bet that the next customer who walks in will ask for something that is out on another job, or that is worn out, or that nobody has ever thought of using before. Then we set to and make it. That is why I have 26 girls continuously at work upstairs."

Just now Berman's has a glut of Naval work. There were uniforms supplied for Betty E. Box's "Appointment With Venus"; more for Ealing's "His Excellency," and now has come along Jay Lewis's "The Gift Horse." Service uniforms are normally supplied with rank badges and decorations separate, so that the studio wardrobe staff can switch them from one artist to another, if required.

Among other productions that relied on Berman's to a great extent were the Technicolor musical "Happy Go Lovely" that was made jointly by Marcel Hellman and Associated British, at Elstree; the Festival film, "The Magic Box"; and, at Pinewood, "Hotel Sahara." In the last-named Mr. Berman had to satisfy experts of four nationalities—British, German, Italian and Egyptian.

Another kind of problem was presented by the Paul Soskin film, "I Spy Strangers," also made at Pinewood. Here he had to dress three different kinds of policemen, a number of Mercantile Marine officers, and, on location, match the clothing of crowd artists playing dock-side labourers, with those of actual labourers who were going about their normal business in the background; and artists taking part in fights, had to have special "battle" clothes in addition. Round about this period Mr. Berman reckons he "owned" a police force of 200.

Artificial Ageing

Present preoccupation is the Walt Disney-RKO-Radio picture, "Robin Hood" at Denham, for which many of the costumes, specially tinted for Technicolor, had to be artificially aged and tattered. In contrast some of the more magnificent outfits, such as those for the Sheriff and Prince John, are actually worth £300 or £400 each.

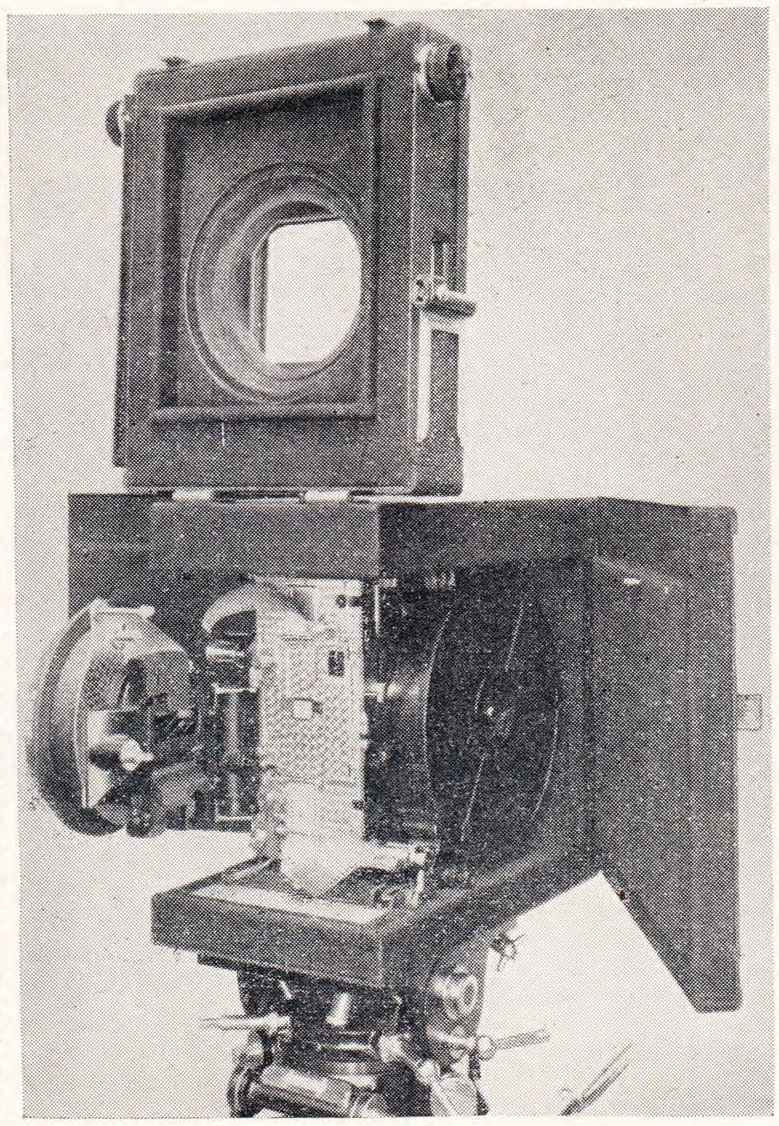
As a matter of fact, medieval Britain is much in evidence at Berman's just now, for preparations are also well advanced for MGM's Technicolor version of Sir Walter Scott's "Ivanhoe," which again contains the problems of matching and contrasting colours.

How it is Done

The work gets done in time (even when a producer suddenly advances his schedule three days, as happened very recently) because, says Mr. Berman, the staff is a team. At the head is his father, Max Berman, chairman and managing director, upon whose vast experience of the business everyone draws: Monty, himself, deals with the minute-to-minute requests, appeals, alterations and customers' second thoughts, which are not, of course, confined to films, for the firm also supplies West End stage shows, repertory all over the country, and television.

Bulwarks of the staff are Fred Baker, manager of the men's department, who has been with the firm 23 years; Michael Whittaker, chief designer, "Oscar" nominee for his work on "The Black Rose" and now engaged on "Robin Hood"; James Gimmel and Anne Silberg, who are chiefs of the men's and women's cutting departments; and the milliner, who is known simply as "Rodé."

In addition there is Monty Berman's brother, David, who manages the Hollywood branch: he is now an American Citizen.



OPEN TO VIEW

The new model of the Debrie "Super-Parvo" camera, with reflex viewing, as shown to the British Society of Cinematographers, Ltd., by J. Shatzow, of Cinetechnic, Ltd., British agents for Debrie

Debrie's New Camera has Reflex View

A NEW model of the Debrie "Super-Parvo" camera having reflex viewing was demonstrated a fortnight ago by J. Shatzow, of Cinetechnic, Ltd., British agents for Debrie.

As with other recent cameras, the principle of the viewing system is that the shutter (whose opening is variable from 0 deg. to 180 deg.) with its mirrored surface is mounted on a 45 deg. axis, so that during the obturating period the image from the taking lens is reflected upon ground glass and is viewed through a prismatic system from the back of the camera. The shutter consists of a metal plate carrying a surface-silvered glass mirror. The look-through gives a clear, highly magnified image.

In general construction the camera is similar to previous models. It carries 1,000-ft. side-by-side magazines, the film making twisted loops into and out of the gate. The register pins are placed immediately below the aperture, so that film shrinkage can have no effect upon steadiness; a pressure pad the size of the film frame keeps the film flat during exposure, and is withdrawn during the shift period.

Wide Range

A wide range of lenses is available, from the amazingly short focus of 18-mm., and from 24-mm. to 100-mm. The first-mentioned lens is of the inverted telephoto type, made by Angénieux; it gives perfect definition to the extreme corners of the frame. All lenses are engraved for both *f* and *t* stops, and work at *f*/2.2 or *t*/2.5.

The Debrie practice of rear control of focus and iris is maintained. For the former a single scale suits all lenses, while for the latter the scale is interchangeable according to the lens in use. Also at the rear of the camera are a measurer and a tachometer, both illuminated in use.

The motor is quickly interchangeable to suit any type of interlock. A useful feature is that provision is made for operation on 50 or 60 c/s. To assist in synchronising in process work a built-in contact is provided.

The housing is heavily insulated with soft rubber, and the noise level is stated to be only 5 phons;

Mr. Shatzow also described a portable self-contained developing machine, the size of a small domestic refrigerator—actually 4 ft. high, 2 ft. 1½ in. deep by 2 ft. wide. Like the "Multiplex," the "Aiglonne" runs in daylight, and various models are suitable for 35-mm. (including microfilm and miniature film) of 16-mm. One application of the machine has been to intermediate-film television, for which purpose the solution works at a temperature of 110 deg. F., taking only a minute for the complete processing.

The actual processing takes place in plastic tubes of spiral form. Chemicals are carried in 2-gallon containers, which simply clip in to the machine.

THIS IS THE BBC's CHALLENGE TO BRITISH NEWSREELS

A "Kine." Reporter Surveys Dorté's Film Organisation

PHILIP DORTÉ, one-time sound recordist and now in charge of the BBC's four film departments, returned from a visit to America a few weeks ago. He came back with new arrangements made between himself and American TV organisations, at a time when the BBC Television Service was preparing for yet another great expansion in the use of film material.

Within the next year the television newsreel, started in 1948 and now being shown with three new issues every week, will have a fresh issue every day running to about 1,200 ft. Every effort is being made to secure more and better commercial film entertainment for showing at peak viewing times. And the BBC's own TV film unit is completing an ambitious series of pictures for showing during the Festival of Britain.

Directly under Dorté's control is the TV newsreel unit, whose manager is Harold Cox and chief producer, Dick Causton; the children's newsreel, a separate organisation, produced by Don Smith; the sequence and studio unit, in charge of John Elliot; and the film booking department, which is operated by Del Strother.

Each of the production units makes use of certain central technical facilities controlled by such people as Robert Verrall, chief editor; John Byers, chief sound recordist; George Wrottner, chief cameraman, and the well-equipped central dubbing theatre.

Harold Cox started life as first assistant director at Sound City, and later worked with Gaumont and at Denham. He joined the BBC television outside broadcasts department in 1938 on the production side. After the war he rejoined TV in 1947, when Philip Dorté was in charge both of outside broadcasts and the film section. As the film section began to develop, Dorté concentrated his attention on that and appointed Cox manager of the newsreel.

Seven Cameramen

The newsreel staff, in addition to Cox and his producer, includes seven cameramen attached to the unit, a script writer and assistant, a senior editor, six cutters (including two sound cutters), three recordists, the commentator and a caption artist, whose department also operates to the benefit of other BBC film work.

The reel is able to operate on a comparatively low budget, partly by making use of other BBC facilities. Michael Balkwill, from the news division at the BBC, acts as an adviser on all policy matters concerning TV news. From time to time the BBC news department provides foreign dispatches from its world correspondents and specialised commentaries, which help in the preparation of the script by Paul Fox and his assistant, Elizabeth Rhys. From time to time use is also made of BBC sound service recordings. And the newsreel has a working arrangement with the National Broadcasting Corporation of America for the exchange of film and sound material by air.

The cameraman must work to a shooting ratio of two to one and is given detailed assignment sheets on all news stories which can be planned in advance, so that they know the general outline which is wanted by the producer. Each cameraman is an experienced photographer journalist, and the material which he provides straight from his camera is invariably in a form which needs the minimum of editing. Every week there is a planning meeting when ideas are exchanged between the newsreel staff and between the children's newsreel and the film sequence and studio units.

Many "Correspondents"

The BBC newsreel has accredited correspondents in most of the large industrial centres of the British Isles to cover "spot" stories, it has arrangements with certain companies for covering international news—but usually, when it has an important story, it flies one of its own men to where the news is happening. For example, Ron Noble is now filming exclusively for the BBC reel in Korea, and his material is being screened to TV viewers within four or five days.

Library Services

All newsreel and other material is placed in a central library in the charge of Mr. Richardson, and this is frequently used by commercial film producers. The BBC technicians were a little amused when one British kinema newsreel asked whether it could use the historic shot exclusive to the BBC of the Oxford crew sinking in this year's Boat Race. But they were not amused when that particular company refused to give credit in its reel that it was a BBC shot! The result was that no kinema newsreel showed the Oxford crew going down.

It is possible that the BBC will want to have its own processing laboratory, in order that it can still further speed up presentation of news material. It also hopes that it won't be much longer before members of the Association for the Protection of Copyright in Sport adopt a more liberal attitude towards the live televising of their events and also towards the BBC newsreel itself—but the recent ban by the Football Association doesn't make matters any easier.

The newsreel is converting its production and transmission plant to take the new RCA coated magnetic 35-mm. film. Within a few weeks' time the newsreel will no longer use a film sound track, which takes time to process, but the track will be recorded direct on to this magnetic film, which can be transmitted in synchronisation with the picture immediately after the final "take."

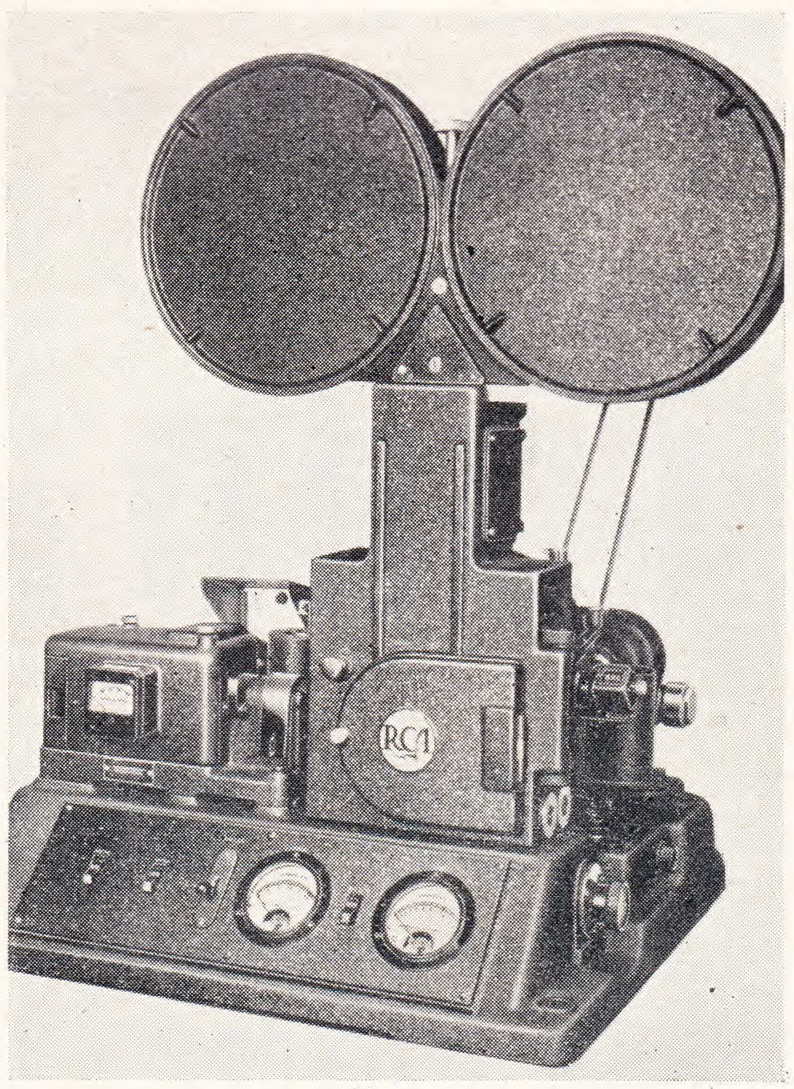
Already the newsreel has sent its commentator to record his commentary on the spot at the same time as the cameraman is shooting the film. The first development of the film has been used to produce a married print of the whole news story transmitted within a few hours of the event.

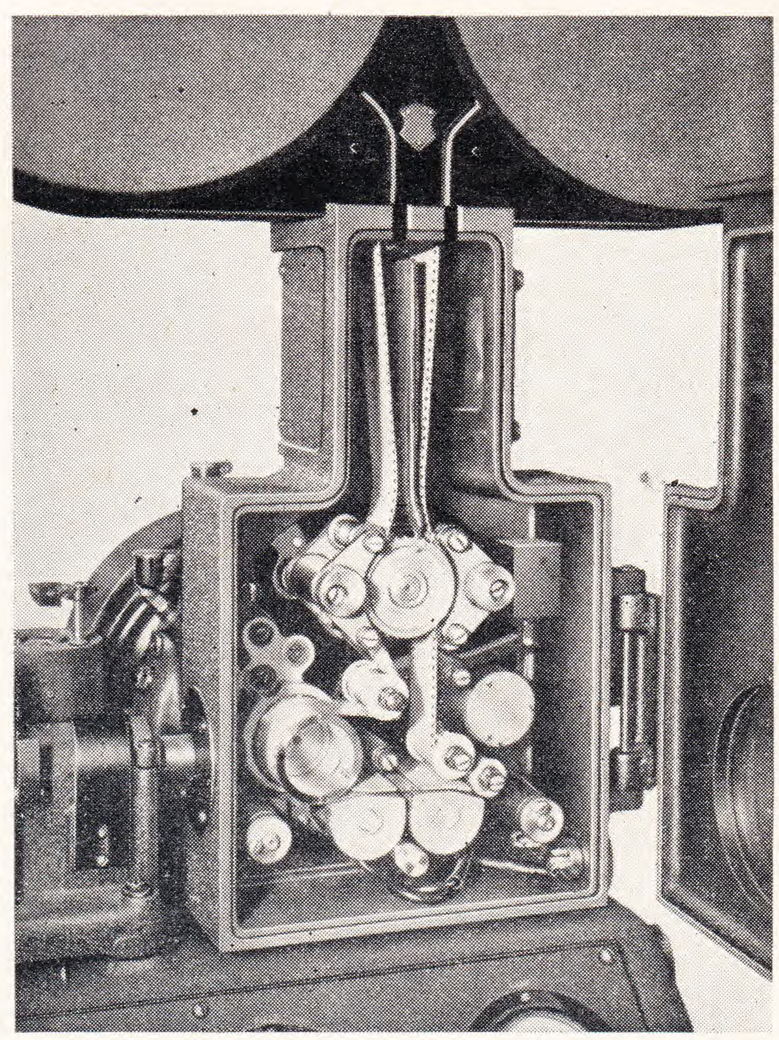
At the moment, providing the story is at the lab. by 3 o'clock in the afternoon, the newsreel will be ready for transmission in the early evening—edited by 5 o'clock, recorded a little while later and ready for the opening of the programme at 8 o'clock.

The unit uses as much British equipment as possible, particularly the two Vinten Visatone and the Newman cameras. A British Acoustic sound track has recently been acquired which contains the most up-to-date equipment for newsreel work.

Easy Distribution

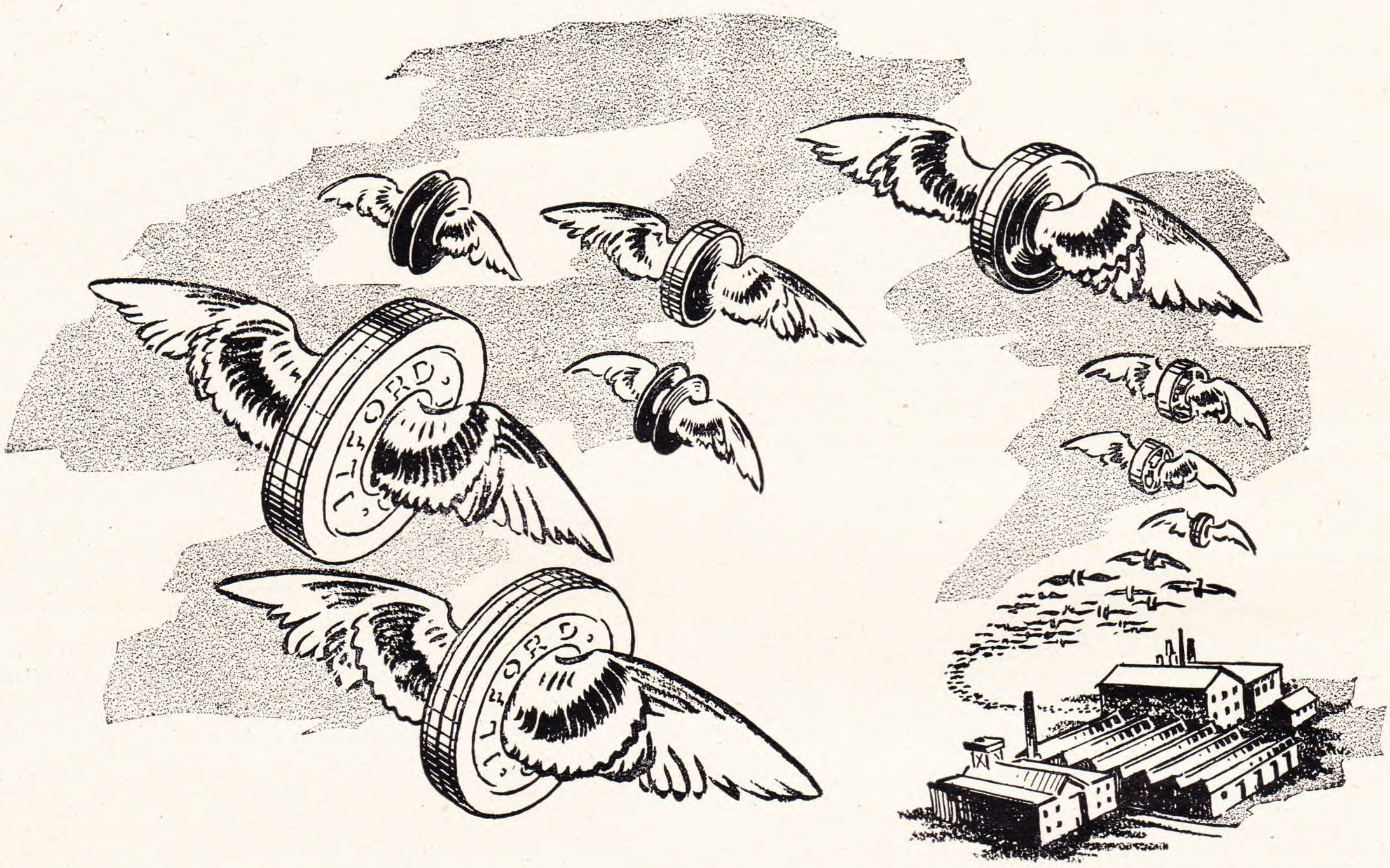
The television reel realises that it has two great advantages over the kinemas—the fact that there is not the cost or time-lag of processing 400 or more copies of a reel, and that when the reel is ready, distribution for TV is direct by radio and not by rail or road to the viewers' home town. The BBC has used those advantages to take even greater strides in making use of every aspect of film to improve the news and entertainment value of its programmes.





Included in the latest-type film equipment to be installed by the BBC for television is the RCA dual-purpose photo-magnetic recorder

if only they were 'HOMERS'



Yes, if only they had wings we shouldn't need to ask you to return your empty 35 mm. and 16 mm. tins and cores — and, of course, 16 mm. spools.
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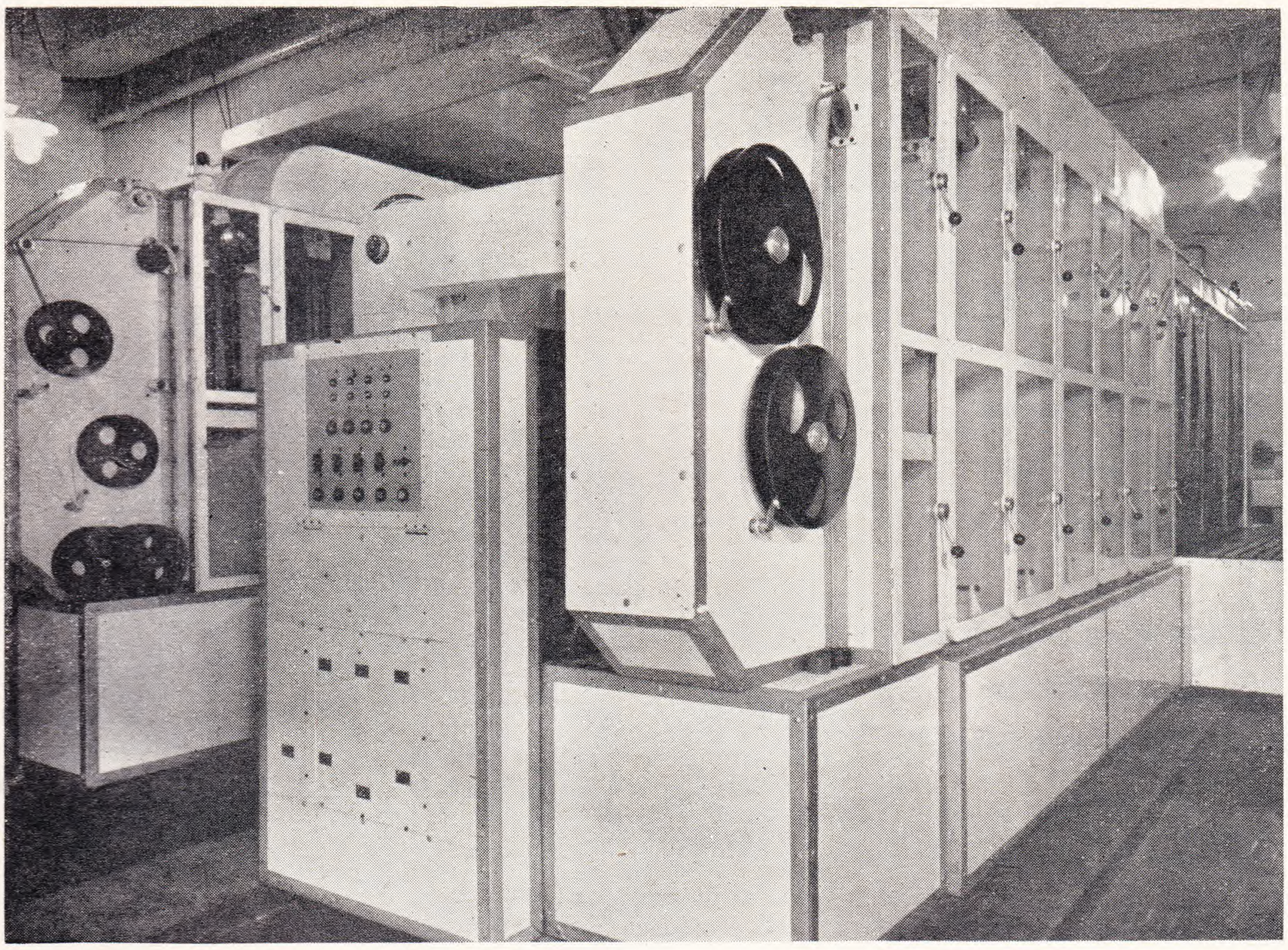

The MGM British process laboratory where developer, fixer and washing water are sprayed upon the film through high-pressure jets

PROCESSING UNDER PRESSURE

The "Spray Master" and its High Degree of Consistency—Close Tolerance for Density

By R. HOWARD CRICKS, FBKS, FRPS

SOME years ago Tommy Howard, FBKS, FRPS, head of the Special Effects Department of MGM British Studios, decided that a processing plant capable of a higher standard of consistency than had before been achieved was essential for the very exacting work of his department. As a result of close collaboration with W. Vinten, Ltd., the "Spray Master" was evolved. A year ago I saw the prototype installed at Elstree, and a second machine is now in operation.

The "Spray Master," as its name implies, is designed specifically to take advantage of recent research into spray processing. In developing, fixing and washing, the lower part only of the film loops runs in liquid; developer, fixer and washing water are sprayed upon the film through high-pressure jets.

One result of this is the amazingly high standard of consistency maintained. Normally the closest tolerance for image density is ±.05; with the new equipment, it is possible to work continually to limits of ±.02.

Processing takes place inside six stainless steel tanks, two for each of the three operations. Inside the first of the fixing tanks is a partition for a stop bath. From the take-off the film is fed over a sprocket into an elevator, which provides a reserve for joining on a fresh reel. For threading the film inside the tanks, the rollers in each section are mounted on a pneumatic hoist; a touch of a pedal lifts the whole of the film and its driving rollers clear of the tank, providing maximum accessibility. The drying cabinets are of more orthodox construction, with glazed doors.

In order to maintain a high degree of consistency, close control of developer temperature is, of course, essential. Refrigeration and heating elements are provided, controlled by the reading of a long bimetal strip. Hygrostatic control is provided for the drying air.

Another factor contributing towards consistency of results is that the other baths, and even the mains water for washing, are kept at a constant temperaure of 65 deg. F. This applies also to the drying cabinet—which fact indicates that it has a generous margin of capacity, since temperatures of 80 deg. and 85 deg. F. are more usual.

With the exception of the take-off sprocket all drives are by means of friction—actually a form of the so-called tendency drive. Reckoning from the take-off, each driving shaft runs at slightly higher speed than the preceding shaft; the result is that the film loops tend to tighten up on the friction rollers, but as they do so the driving roller, mounted on a spring arm, is drawn out of contact with the driving shaft, thereby maintaining a constant film tension throughout the machine.

The machine is constructed to run either 35-mm. or 16-mm. film. The take-off sprocket slides along the shaft to permit either of two sets of teeth to be engaged; the driving rollers are provided with recesses, within which the 16-mm. film runs.

Drive is by a variable-speed motor. The running speed is indicated on a tachometer, graduated in terms of developing time, from 4 to 14 minutes.

A feature of the construction of the "Spray Master" is that it is completely self-contained. With most developing plant, brick walls separate light and dark sections; most of the plumbing and the solution pumps are placed in a room below the machine. In the "Spray Master," on the other hand, practically no structural work is needed, and the solution pumps are placed in a housing on the off-side of the machine, while the storage tanks extend to the operating side where they form a platform providing access to the mechanism.

By operating pumps and cocks any of the baths can be pumped up to the mixing room above, or run to waste—the latter, incidentally, is rarely practised; at present a posiive bath is in use which has not been replaced for nearly a year. The value of a system of continuous replenishment in maintaining consistency needs no stressing. It is, however, easy to change solutions to handle negative or positive, picture or sound.

Although for the present purpose the machines run usually at about 70 ft. per minute, the capacity is such that a much higher speed can be achieved. Mr. Howard suggests, indeed, that by fitting an additional developing tank, a speed of 200 ft. per minute or more could be achieved—a remarkable output for so small and compact a machine.

A high tribute to the consistency of results of the department is afforded by the fact that all special effects for "Quo Vadis" are being carried out at Elstree, instead of being sent to Hollywood. Those who have seen travelling matte shots, for instance of the burning of Rome, tell me that the results are really outstanding.

BFI Film School to Start August

The British Film Institute is this year holding its annual Summer Film School at the University College of North Wales, Bangor.

The purpose of the course is to give those interested in teaching film appreciation a concentrated training in the fundamentals of film technique and film history. As in previous years, the mornings will be devoted to lectures by film technicians on the main aspects of production and to lectures and discussions on teaching methods; the evenings will be devoted to film shows, taken from the historical collection of the National Film Library.

The course will be under the general direction of Stanley Reed, BFI film appreciation officer, and his team of lecturers will include Roger Manvell, Denis Forman and Gavin Lambert.

The course will run from August 7 to 21, and new accommodation in the college will be used for the first time. Details and enrolment form can be obtained from the British Film Institute, 164 Shaftesbury Avenue, London, W.C.2.

No Fun at the Fair

Unit and cast of Frank Launder's "Lady Godiva Rides Again" spent a day at the Festival fun fair at Battersea Park this week—but it was only for scenes needed in the film.

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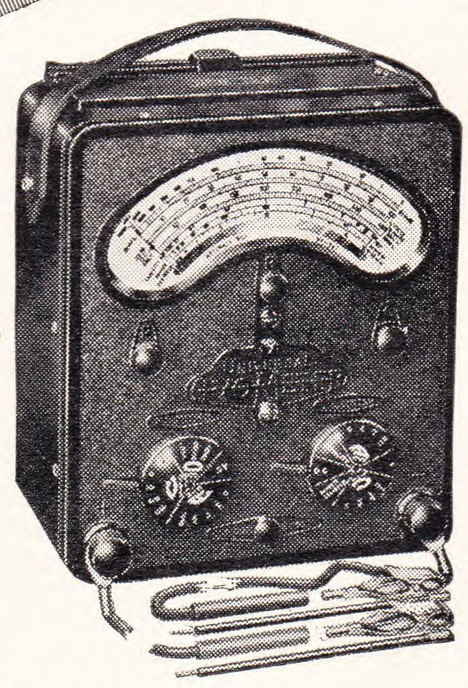

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ECONOMIC STRAIT JACKET TIGHTENS

Continued from page 3

matter of individual temperament. For some the method would be more help than hindrance.

There's been recent proof of this by the director who is at present shooting at the studio where I work. Bob Hamer has been consistently opposed to pre-planning of the sort described. He prefers not to break down the script scenes into individual shots until the actors are rehearsing on the floor. And he is up to date, setting a record in the studio for the screen time filmed per day.

Most controversial of all the formula involves the number of camera "set-ups," the number of times which the camera is moved to a new position, which usually involves a change in the lighting.

Here the debate becomes quickly involved in the intangibles of the style of the film. In films made recently at Ealing the figures may vary from nearly 700 to 450. The type of story is obviously one of the factors involved; a film based on long dialogue scenes will be more economical than a story told in action with characters moving from place to place. But, even taking this into account, it's clear that directors tend to have a personal style. One man will make elaborate use of the camera, underlining reactions by rapid change of angle. Another will leave the work of the camera at its simplest while he instructs the actors to make each point by timing of movements within the shot.

Editing Dazzle

To some tastes this "continuous take" means robbing the kinema of the tricks that it does best. It smacks of theatricality and, clumsily used, may tend to weaken the impact on an audience. It certainly means that there is little chance to distract the audiences from weaknesses of story and performance by the dazzling tricks of editing.

On the other hand, actors prefer this way of shooting for virtually the same reason. They like to feel the tempo of the scene for themselves distrusting, perhaps with some justification, the ability of an editor to use a series of alternating shots which put new emphasis on the actor's performance and frequently alter the timing of dialogue. In Hollywood, where it is not unusual for a director to be excluded from the editing of a picture, he, too, may share the same feeling.

Only one generalisation seems possible in the whole vexed issue. One quality seems recognisable in the directors whose work is fast without being slipshod. Experience. The sense of the difference between some things which are worth expense of precious time and trouble and others which aren't, is developed almost unconsciously. The choice of moment at which to compromise and the moment to insist involves so many things and must be made so fast that there is seldom time to be conscious of the reasoning behind it. It's still a business of incorrigible individualism. It has to be.

Jack Howells, writer-director of HERE'S TO THE MEMORY, at a script conference on the set at Pathe Studio, Wardour St., W.1. Lord Brabazon of Tara, Rosamund John, Norman Wooland, Jack Howells, James Laver and Veronica Hurst

Rupert Evans, ex-Royal Marine physical training instructor, coaches Joan Rice and James Hayter in fencing for the Walt Disney-RKO-Radio Technicolor production, ROBIN HOOD, at Denham

EDMUNDO ROS AT SOUTHALL

Edmundo Ros and his Latin American Orchestra have been signed to appear in John Baxter's picture "Judgment Deferred" now on the floor at Southall. They will play in sequences which are being filmed this week in a restaurant setting.

Among the numbers the Band will play are "My Favourite Samba" and "No, No, Lolita" and an unpublished number, "With a Kiss and a Sigh."

David Hannaford has also been added to the cast this week. The last film this young star made for John Baxter was "The Second Mate," which is now showing round the country.

Director Hugh Falkus, with cameramen Bill Pollard and Sydney Samuelson on Achill Island, Eire, making the Anglo-Amalgamated film, SHARK ISLAND

Fifty Years of Nostalgia in Pictures

PATHE COMPLETING ANOTHER "SCRAPBOOK"

NOW in its final stages of production at Pathé House is "Here's to the Memory," a reminiscence of the last fifty years, latest in the successful "Scrapbook" series of full-length films made by the Pathé Documentary Unit.

Written and directed by Jack Howells, who scripted "The Peaceful Years" and "Scrapbook for 1933," both box-office winners, "Here's to the Memory," is not merely a review of fifty eventful years: it is a story of the people of Britain.

"Although the great historical events which stirred the country and the world are in the film, I have tried to deal with emotion rather than literalities," says Howells. "We have attempted to show what the people of Britain are like when history leaves them alone."

Narrators Seen

"Here's to the Memory," has five chosen narrators, Lord Brabazon of Tara, James Laver, Rosamund John, Norman Wooland and Veronica Hurst. They differ from many film narrators in that they are seen as well as heard. In scenes shot at Pathé's Wardour Street studio, they are shown chatting around the fireside at a New Year's party. Their reminiscences provide the links for the picture's real-life sequences.

Covering the span from Queen Victoria's funeral to the present day, "Here's to the Memory" includes shots of Captain Scott in the Antarctic, the late King Edward VII at a hunting party, the departure of the "Titanic" on its ill-fated voyage, the investitute of the Prince of Wales at Caernarvon Castle, and, of course, touches on the two world wars.

The Lighter Side

On the lighter side, it shows outstanding figures of the entertainment world, such as Tommy Handley, Carroll Gibbons, Clapham and Dwyer, Claude Dampier, Elsie and Doris Waters, the Western Brothers and Gracie Fields. There are excerpts from Al Jolson's early film, "Sonny Boy," from Alfred Hitchcock's "Blackmail" (the first British "all-talkie") and "Broadway Melody." Sport is represented by Jack Hobbs, Steve Donoghue, Gordon Richards and Jimmy Wilde, among others. George Bernard Shaw is caught by the camera on the deck of a Transatlantic liner.

Great care has been taken to enhance the nostalgic quality of "Here's to the Memory" with a good musical score, written, arranged and orchestrated by Alan Paul. Memorable tunes down the years have been specially recorded by such singers as radio's "Keynotes."

CURRENT PRODUCTION CHART

Studio and Subject.	Stars.	Director.	Lighting Cameraman.	Producer and Renter.	Weeks on Location.	Progress on Stages (weeks).
DENHAM—Denham 2345						
"Robin Hood"	Richard Todd, Joan Rice	Ken Annakin, Alex Bryce	Guy Green ... Geoffrey Unsworth	Perce Pearce; RKO-Radio	—	8
EALING—Ealing 6761						
"His Excellency"	Eric Portman, Cecil Parker ...	Robert Hamer	Doug Slocombe	Michael Truman: GFD ...	—	3
ELSTREE (ABPC)—Elstree 1600						
"So Little Time"	Marius Goring, Maria Schell ...	Compton Bennett ...	Ossie Morris ...	Aubrey Baring and Maxwell Setton; AB-Pathe	2	9
"The Woman's Angle" ...	Edward Underdown, Cathy O'Donnell	Leslie Arliss	Erwin Hillier ...	Walter C. Mycroft: AB-Pathe	4	6
"Hawks in the Sun"	Jack Hawkins	George More O'Ferrall	Chris Challis ...	John Gossage and Derek Hurst: AB-Pathe	3	6
NETTLEFOLD—Walton-on-Thames 2414						
"Scrooge"...	Alastair Sim, Mervyn Johns ...	Brian Desmond Hurst ...	Pennington Richards	B. D. Hurst: Renown ...	—	5
PINEWOOD—Iver 700						
"Encore"	Nigel Patrick, Kay Walsh, Glynis Johns ...	Pat Jackson, Anthony, Pelissier, Harold French	Desmond Dickinson	Anthony Darnborough: GFD	—	5
RIVERSIDE—Riverside 3012						
"Reluctant Heroes"	Ronald Shiner, Derek Farr ...	Jack Raymond	James Wilson ...	Henry Halsted: ABFD ...	—	3
SHEPPERTON—Chertsey 2211						
"Lady Godiva Rides Again" ...	Derek Price, John McCallum ...	Frank Launder	Wilkie Cooper ...	Sidney Gilliat and Frank Launder: Brit. Lion	—	3
"Mr. Denning Drives North" ...	John Mills, Phyllis Calvert	Anthony Kimmins ...	John Wilcox ...	Anthony Kimmins: Brit. Lion	—	3
SOUTHALL—Southall 3281						
"Judgment Deferred"	Hugh Sinclair, Helen Shingler ...	John Baxter	Arthur Grant ...	John Baxter: ABFD ...	—	3
VIKING—Western 2516						
"The Armchair Detective" ...	Ernest Dudley, Hartley Power ...	Brendon Stafford ...	Gordon Lang ...	Donald Ginsberg	—	7

The People Behind the Cameras

Below are some of the men and women who are making the films now on the stages of British Studios

THE studios at which the following features are being made are detailed in the production chart above.

"Scrooge"

Producer/director, Brian Desmond Hurst; associate producer, Stanley Haynes; production manager, Stanley Cousins; production secretary, Doris Prince; 1st asst. director, Denis O'Dell; 2nd asst. director, Tony Harris; 3rd asst. director, Buddy Booth; floor runner, Jan Saunders; continuity, Margaret Ryan; lighting cameraman, C. Pennington Richards; camera operator, Cecil Cooney; focus puller, G. L. Turpin; clappers, T. Friswell; sound mixer, W. Lindop; boom operator, Fred Ryan; sound recordist, C. Earl; editor, Anne Barker; assembler, Clive Donner; 2nd asst. to editor, Michael E. Johns; costume designer, Doris Lee; asst. costume designer, Phyllis Dalton; wardrobe master, W. Walsh; make-up, Eric Carter; asst. make-up, Aldo-Mangararo; hairdresser, Betty Lee; asst. hairdresser, June Robinson; casting director, Maud Spector; art director, Ralph Brinton; sketch artist, Patricia Neville; 1st draughtsman, E. Hope-Well-Ash; 2nd draughtsman, E. Marshall; construction manager, Wally Smith; set dresser, Freda Pearson; property buyer, Chris Chapman; stills cameraman, Dick Cantouris; accountant, Larry Edmonds; publicity director, Hugh Findlay.

"Encore"

Producer, Anthony Darnborough; directors, Harold French, Pat Jackson and Anthony Pelissier; production controller, Arthur Alcott; production manager, Denis Holt; art director, Maurice Carter; set dresser, Arthur Taksen; editor, Alfred Roome; director of photography, Desmond Dickinson; camera operator, Harold Haysom; 1st asst. camera, Jack Atchler; 2nd asst. camera, S. Claydon; 1st asst. director, Bob Asher; 2nd asst. director, Roger Bernard; 3rd asst. director, John Oldknow; continuity, Yvonne Axworthy; sound mixer, John Dennis; sound camera operator, H. Raynham; boom, D. Messinger; asst. boom, E. Daniels; floor stills, Cornel Lucas; costume designer, Julie Harris; wardrobe supervisor, women, Dorothy Edwards; men, Bob Raynor; wardrobe (floor), Bert Simmons; make-up, W. T. Partleton; make-up (floor), Paul Rabiger; hairdressing, Biddy Chrystal; hairdressing (floor), Pearl Gardner; property master, Bert Gaiters; chief construction manager, E. Hughes; construction manager, A. Jempson; casting director, Weston Drury, jnr.; publicity manager, Ken Green; floor publicist, Norman Hudis.

"His Excellency"

Producer, Michael Truman; director, Robert Hamer; unit production manager, H. E. Hand; 1st assistant director, Harry Kratz; 2nd assistant director, John Assig; 3rd assistant director, J. O'Connolly; continuity, Jean Graham; casting director, Margaret Harper Nelson; casting (crowd), Muriel Cole; production costing, Orlando King; lighting cameraman, Douglas Slocombe; camera operator, Jeff Seaholme; camera assistant, Hugh Wilson; loading and clappers, Michael Shepherd; grips, E. Lockhart; art director, James Morahan; assistant art director, Len Wills; set dresser, Andrew Low; scenic artist, G. Dickinson; special effects, Sydney Pearson; stills supervisor, Jack Dooley; floor stills, R. Penn; sound supervisor, Stephen Dalby; sound mixer, A. Bradburn; sound camera operator, E. Stockl; boom, C. Swern; assistant boom, R. Healy; editor, Seth Holt; 1st assistant editor, Harry Aldous; 2nd assistant editor, J. Jympson; make-up supervisor, Ernest Taylor; make-up assistant, Harry Frampton; hairdressing supervisor, Barbara Barnard; hairdressing assistant, Daphne Martin; wardrobe supervisor and costume designer, Anthony Mendleson; wardrobe master, Ernest Farrar; men's wardrobe assistant, R. Beck; wardrobe mistress, Lily Payne; women's wardrobe assistant, Edith Crutchley; chief electrician, Jack Ford; floor electrician, Bert Spurgeon; production buyer, Fred Lacey; property master, R. Tull; floor props, W. Hill (in charge) and J. Neville; construction manager, George Speller.

"Reluctant Heroes"

Director, Jack Raymond; producer, Henry Halsted; production manager, Eric Veendam; first assistant director, George Pollard; second assistant director, Frank Ernst; continuity, Olga Brook; lighting, James Wilson; camera operator, Gerry Moss; focus, Michael Bayley; stills cameraman, Harold Hanscomb; art director, Wilfred Arnold; buyer, Charles Hasler; editor, Helen Wiggins; wardrobe, Ellen Trussler; make-up, Nell Taylor.

"Judgment Deferred"

Producer and director, John Baxter; associate producer, Barbara K. Emary; assistant director, Dennis Johnson; 2nd asst. director, Jack Lambert; director of photography, Arthur Grant; production manager, Jack Hicks; production assistant, Bob Jones; art director, Dennis Wreford; associate art director, Don Russell; continuity, Vega Stewart; editor, Vi Burdon; 1st asst. editor, R. Winter; camera operator, Ken Hodges; focus operator, Dicky Bailey; sound mixer, Len Page; sound camera operator, Dave Coghan; boom operator, Tom Otter; loader/clappers, Eric Williams; make-up, John O'Gorman; wardrobe, Amy C. Binney; hairdresser, Jane Seymour; stills, Laurie Turner; draughtsman, H. Pottle; buyer, G. R. Godbold; construction manager, Bert Roberts; production secretary, Doreen Soan.

"The Woman's Angle"

Producer, Walter C. Mycroft; director, Leslie Arliss; production manager, Gerry Mitchell; first assistant director, Cliff Owen; second assistant director, John Hewlett; third assistant director, Fred Goode; continuity, Thelma Orr; lighting cameraman, Erwin Hillier; camera operator, Norman Warwick; focus, Tony White; clappers, Brian West; recording director, Harold King; recordist/mixer, Les Hammond; sound camera, Cyril Brown; boom, D. Whitlock; assistant boom, Michael Colomb; art director, Terence Verity; chief draughtsman, Tony Masters; editor, E. B. Jarvis; first assistant editor, Eva Catchpole; casting director, R. Lennard; assistant casting, G. Walker; dialogue coach, M. Hartley-Milburn; make-up artist, Bob Clark; assistant make-up, Eric Aylott; hair stylist, A. G. Scott; assistant hairdresser, Pauline Trent; wardrobe designer, Marguerite Watkinson; wardrobe mistress, Alice McLaren; wardrobe assistants, C. D. Gray and A. Dove; stills, Albert Clarke; chief electrician, S. Birtles; property master, W. Osborne; master carpenter, B. Ebling; master painter, T. Weatherley; master plasterer, B. Moodnick; property buyer, Dudley May; drapes, Fred Bowerbank; musical director, Louis Levy; production secretary, Jean Padley; publicity director, Leslie Frewin.

PATHE—PROGRESS IN PROCESS

A New Laboratory Service Described

An Interview with

C. J. PHILLIPS

Laboratory Manager

C. J. PHILLIPS is a technician. You can tell that as soon as this short, dark-haired man starts to speak to you about the Pathé laboratories, of which he is manager. He has been associated with film processing since the early 1920's, when he was with Kodak at Harrow.

He became technical supervisor for Pathé in 1929, which at that time was under the management of George Touzé. If you let him start talking technical jargon he will explain how in those days he built up a control system made necessary by the introduction of the sound track, while at the same time he developed high-speed technique to serve the Pathé News. It was in 1946, when Touzé retired, that Phillips became manager both of the old Wardour Street laboratory and the Elstree studio plant.

The group was anxious to reconstruct both studios, so that Phillips was sent on an extensive tour of processing plants both in America and Europe in search of equipment and information concerning the latest techniques.

The tour lasted several months, and after consultation with leading technicians of both Continents, Phillips advised his directors that the modern trend to dispense with darkroom work on the developing side had many great advantages, both from the point of view of improved working conditions and of efficiency of layout.

It was realised, of course, that having regard to the locality in which the works were situated, some method of complete air filtration was absolutely essential. It was found possible to accommodate the necessary additional apparatus to provide humidity control in all those rooms where film would be handled.

The actual drawing up of the plans was placed in the hands of Verity and Beverley, architects, of Old Burlington Street. A series of conferences then took place between Phillips and Samuel Beverley, F.R.I.B.A., during which both visited Paris in order to study the actual installations of the daylight developing machines.

Plans were drawn up, modified and then redrawn over a lengthy period. Samples of tiling, composition flooring, specialised paints, and so on were subjected to various tests in order to make sure they were impervious to chemical action.

The problem of supplying sufficient electrical current for the new greatly augmented plant was very serious as the low-voltage mains in Wardour Street were insufficient to carry the extra load. The London Electricity Board, therefore, advised that the best way out was to house a transformer station on the premises in order that high voltage could be run in from the street.

A complete electrolytic silver recovery plant was planned and made in Pathé's workshops from experience gained from a pilot plant which previously had been installed in the Elstree laboratory belonging to the company.

Owing to its ease of working it was decided that slate was the most suitable material for the main developing and fixing tanks, but it was not easy to obtain sufficiently large sheets for the construction of these tanks, for it should be noted that the capacity of the main developer tank is approximately 2,000 gallons.

Many other problems had to be tackled, including the provision of cloakrooms and a canteen, room for which could not be found in the main building. A site immediately at the rear of the premises and fronting on to Berwick Street was, therefore, purchased and is connected to the laboratory by means of a semi-covered way from the first floor level.

The old laboratories closed down in May, 1949. At first it was considered possible to do a limited amount of work during the initial stages of rebuilding, but this idea was abandoned and release printing for Associated British-Pathé was transferred in its entirety to the Elstree laboratories, whilst two of the major laboratories outside the Pathé organisation agreed to undertake the temporary processing of the newsreel.

Then began the task of dismantling the old apparatus. After the Pathé mechanics staff had completed this job the demolition squad moved into the building.

The new laboratory had to be capable of rapid work without sacrificing quality, partly because one of its functions is to process both negative and positive stock for two weekly issues of the newsreel. The laboratory is already processing all the positive releases for AB-Pathé, and has taken on jobs for several other major Wardour Street renters.

Phillips is most grateful for the co-operation given by the Board of Trade import licensing department. It is essential that export prints of British pictures should be of the highest possible quality, which was one of the reasons why the Board cleared the way for bringing the latest design equipment into Britain.

The laboratory at present has a staff of about 100 people, and is still expanding. When the old laboratory closed down last year the long-term employees were put on half pay. Now Phillips has brought them back, many of them being given promotion.

He can fairly claim that the laboratory staff is the most skilled in the country.

The fact that all the processing is done in daylight helps to make working conditions ideal. This point is confirmed by Frank Fuller, who is

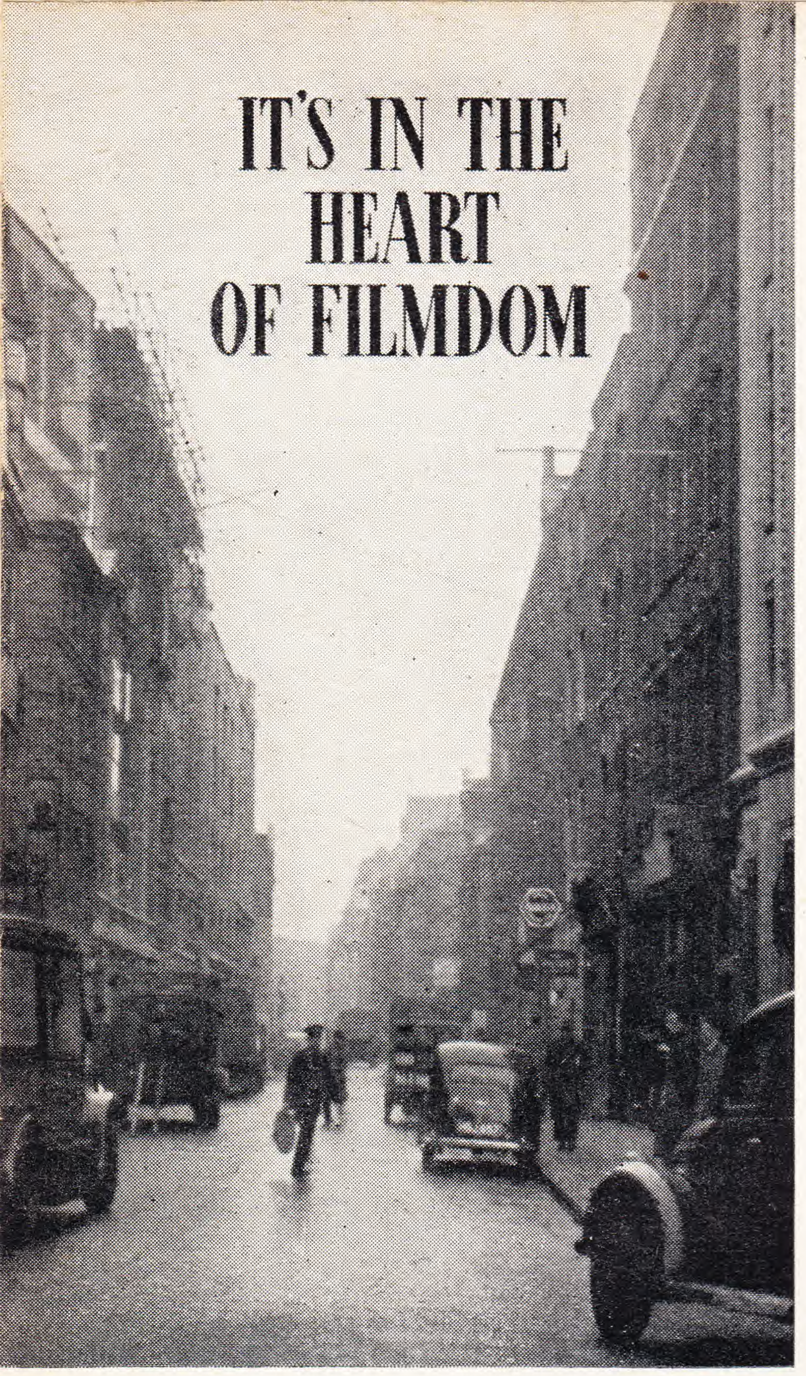
Continued on page 13

Sir Philip Warter writes:

WITH the re-opening of the Associated British-Pathe Laboratories in Wardour Street, we enter a new phase of our operations in the technical field.

We have spared neither money nor effort in converting this laboratory into one of the best-equipped and most modern film processing plants in the world. The highest technical skill and ingenuity has contributed to its design and installation, and is now being utilised in its operation.

Our own productions, and those of our customers, will be assured here of the finest processing facilities available anywhere. I welcome the completion of this laboratory as a powerful addition to the technical strength of our British film industry.



The laboratory of today with tomorrow's design

In keeping with this Festival Year, Pathe renews its service to the trade with a film processing plant which is the last word in design and efficiency. A review of the equipment and operation is provided in this article.

By R. HOWARD CRICKS, FBKS, FRPS

A MAJOR laboratory with only two darkrooms: that is the effect of installation of the Debrie "Multiplex" daylight developing machine upon the newly reconstructed Associated British-Pathé laboratories at 103-109, Wardour Street, W.1.

Partly because of the use of daylight development, but more because of the sound technical outlook of C. J. Phillips, laboratory manager, and R. H. Bomback, who is in technical charge, every operation is controlled by scientific methods.

The laboratory, together with cutting rooms and offices, occupies no fewer than five floors of a building, which has been modernised in the most up-to-date taste. The offices are attractively decorated in a pastel shade of peach, and the fluorescent tubes are carried in baffle-type fittings made by BTH. Freedom from dust throughout the workrooms is assured by the use of glazed tiles and polished floors. An important feature making for day-to-day efficiency is the Philips loud-speaking telephone system.

The equipment provides for both normal release printing and also for the special requirements of newsreel work, including negative developing. The output with a single shift is no less than 1¼ million feet per week.

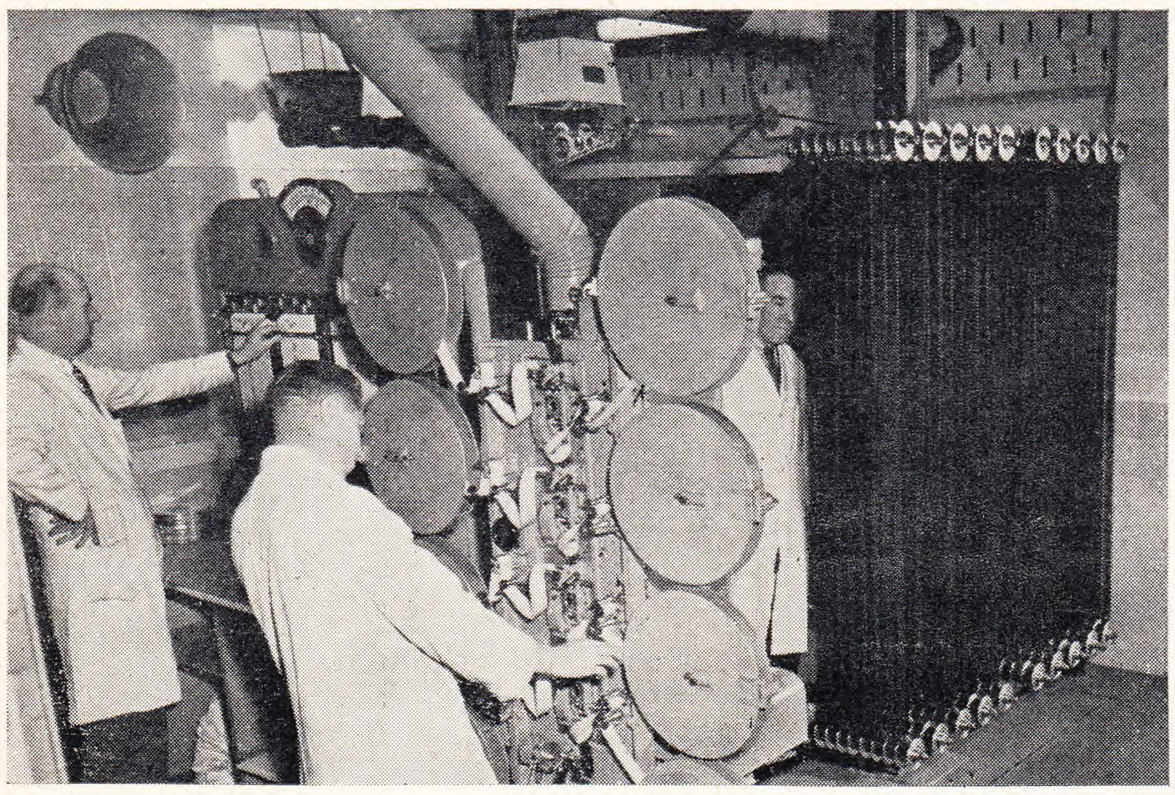
Printing Quality

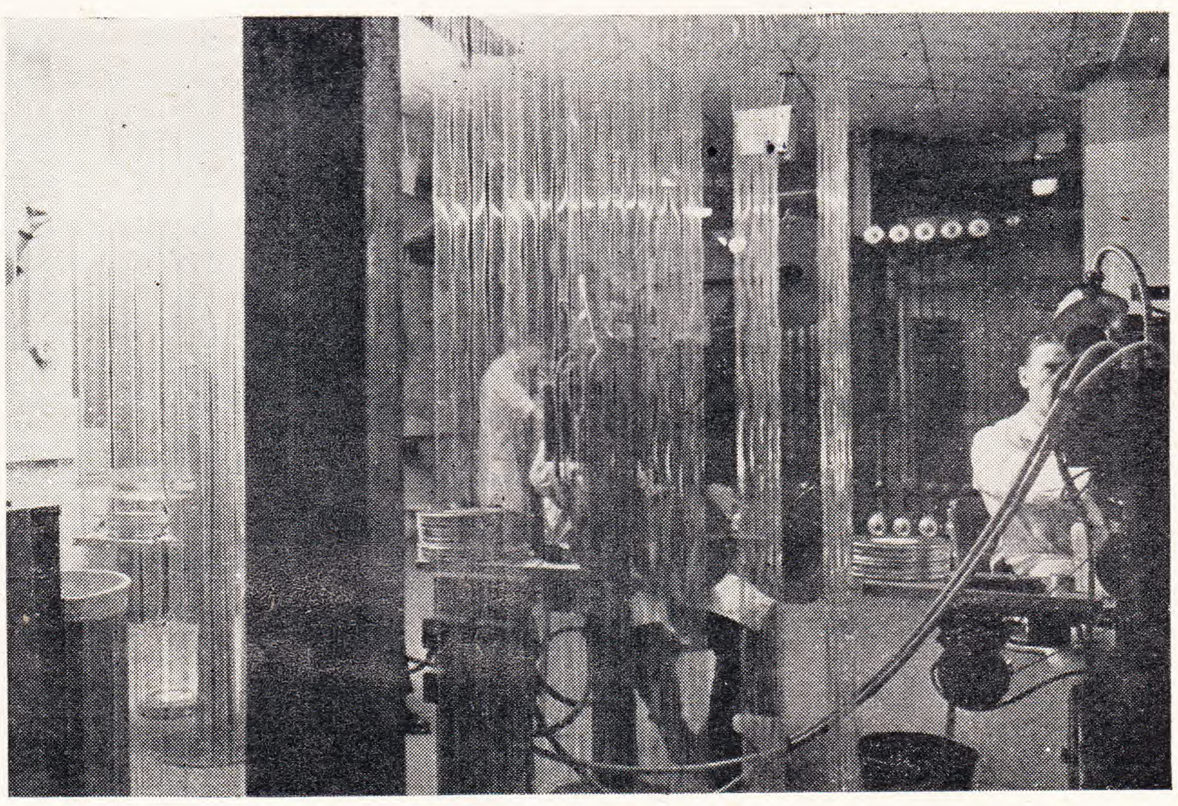
A tour of the building should logically start at the second floor, where there are the printing rooms—the only darkrooms on the premises. Back in the silent days the Pathé Gazette had for years been printed on a quadruplicate printer, which made four prints simultaneously from the one negative. When sound came I was given the task of redesigning these machines, and the four quad. printers now installed are practically unchanged.

The negative runs vertically downwards through the four gates, either from a normal take-off or, in the case of the newsreel, around an endless-band roller system which enables the whole print order of the reel to be printed without rewinding. Each positive runs from a take-off on the left of the machine, through the curved gate, and to a take-up on the right. Light control is by means of a punched-card system. Altogether the machines are particularly well adapted to the special requirements of newsreel work, yet are capable of a quality adequate for feature release.

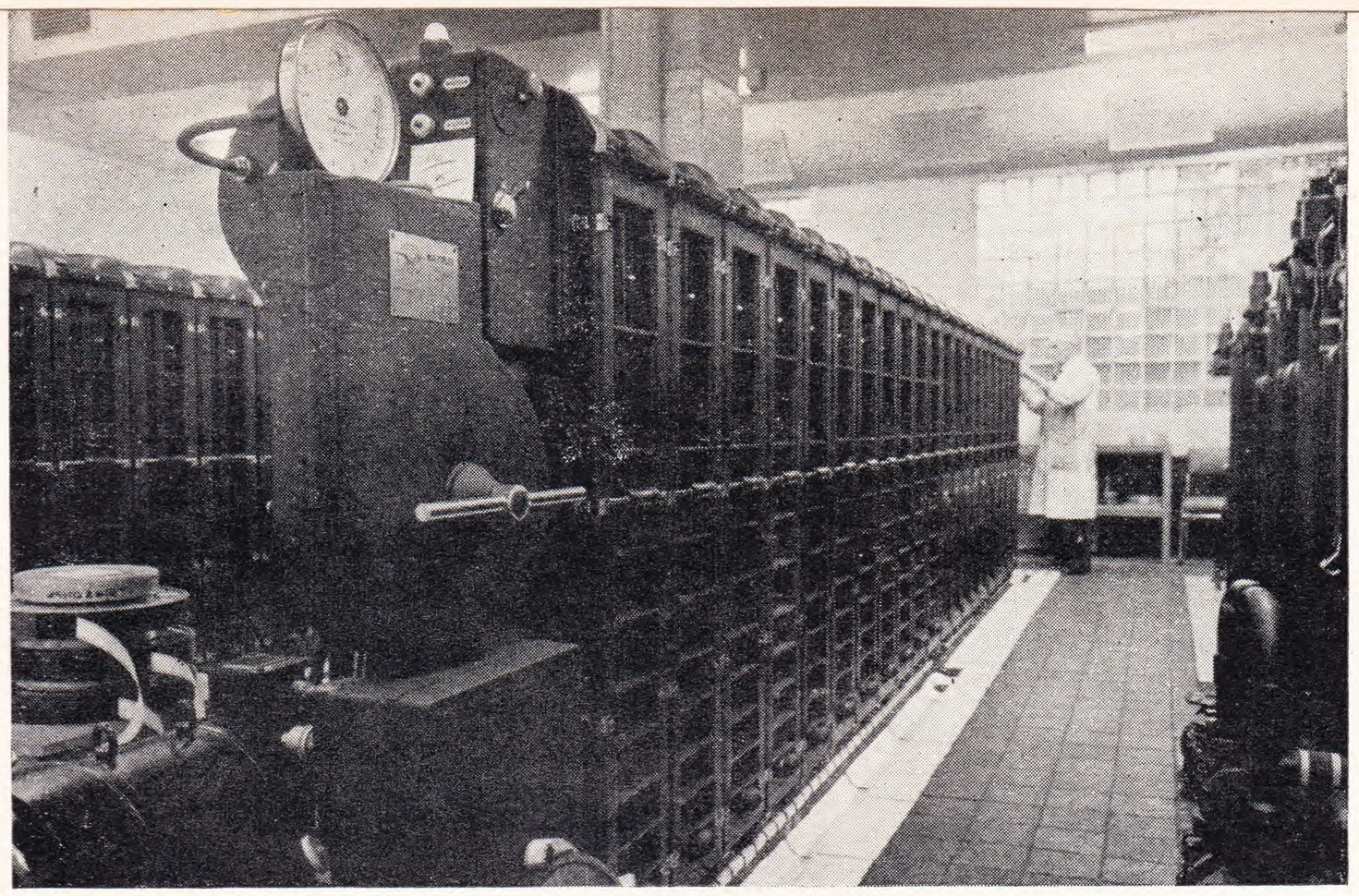
In addition, there are six Bell and Howell Model "D" printers and two Debrie "Matipo" printers. There used formerly to be a pair of Debrie 35-mm.-to-16-mm. reduction printers, but all 16-mm. work is now concentrated at Elstree.

To guard against mains fluctuations affecting print density, all printing lamps are fed from Fuller rotary convertors, with a stabilis-

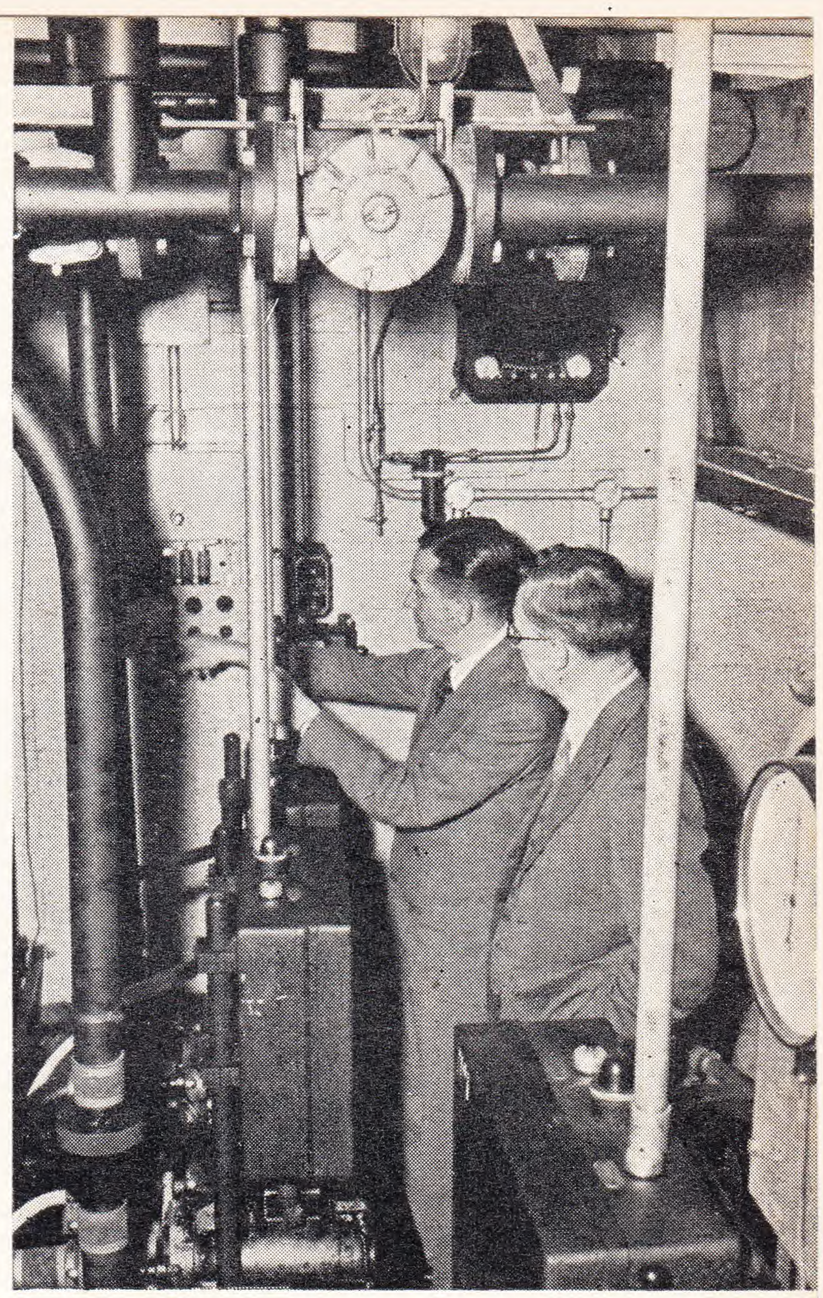




"The Quadruple Printer," designed and made in Pathe's own workshops. At the rear can be seen the continuous loop system, enabling repeat printing of the newsreel without the necessity for re-loading the negative. On the printing machine the negative runs vertically through the four gates and the positive stock horizontally with the loop as it reaches the gate. There are four such machines in the main printing room. On the left is the light control system. Picture on the right shows in the foreground the loop attachment (threaded with clear leader film) and behind it two Bell and Howell model "D" printing machines



The daylight operated positive developing machines are situated on the ground floor. These consist of a battery of five machines, each capable of developing up to 8,000 feet of positive film per hour. All supply lines are run under the ceiling of the basement, and are in full view of the maintenance staff for the quick location of leaks or other faults. The fan chamber supplying clean air to the drying cabinets is situated behind the glass block wall shown in the picture. Floors are tiled, walls finished in glossy paint to ensure cleanliness



C. J. Phillips demonstrating to R. H. Cricks the amplifier forming part of the continuous pH recording system

ing circuit which maintains a rigorous 100 volts. A factor making for the comfort of the printing room staff is that the room has been acoustically treated by Horace W. Cullum and Co.

From the printing room the exposed but undeveloped prints descend to the ground floor. Here, in a light, airy room, with fluorescent lighting and its farther wall of glass bricks, lit to simulate daylight, is a battery of five Debrie "Multiplex" developing machines. Each machine is built up of 21 individual units, and each unit contains two rows of film festoons. Accessibility to each unit is provided both by the door and by the hinged top. In the washing and drying sections the film can be seen through the glazed doors, but the developing and fixing sections are completely light-tight; the hinged top is sealed in ingenious fashion by means of a rubber strap.

Light Tight Housing

The first unit consists, of course, of an elevator unit fed from a light-tight housing. As the end of a roll of film is drawn off the take-off, the take-off sprocket stops and the machine draws from the elevator; a signal lamp indicates that the machine needs reloading (if this is not attended to in time a second signal lamp lights before the machine stops).

The roll of film from the printer is received in a light-tight magazine of very simple construction, the cheeks like spool-faces and the walls again of rubber, with metal traps. This magazine, with a few inches of film protruding, is placed on the take-off spindle and the film is joined on to the stationary end of the previous reel by means of wire staples. The door of the housing is closed, a half-turn of a handle opens the trap of the magazine and allows the film to run without touching any face. The take-off sprocket then draws the film at a rather faster rate than normal in order to replenish the elevator.

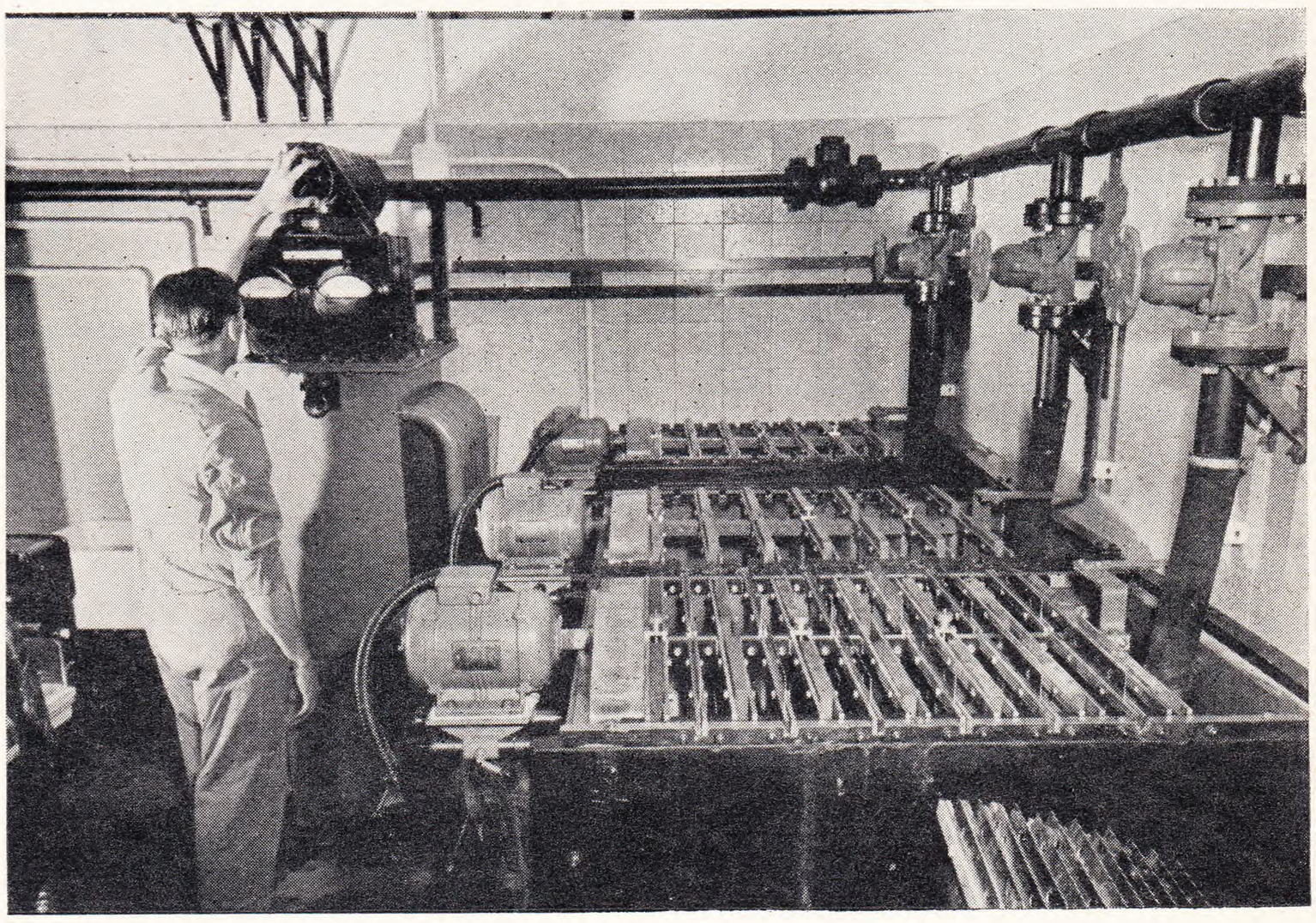
Interlocks prevent the door of the light-tight housing being opened while the machine is running, and prevent the machine being started while the housing is open; other devices give warning should the film break at any point. The running speed of the machine is adjustable from 2½ to 20 minutes' development time. Its design and construction demonstrate that the firm of Debrie has not lost its ingenuity and precision of manufacture.

With the ordinary developing machine the operator is able to examine the film as it comes out of the developer and—although it is generally against all regulations—can vary the speed of the machine should his practised eye indicate the need for it. With an enclosed machine working in full light this is not possible; therefore, every scientific precaution must be taken against variation in results.

The principal factor in maintaining consistency is the constant circulation of solutions, at an adequate rate to ensure that no directional effects appear. In the basement below these machines is a remarkable array of pipes, tanks and pumps which provide complete control over the run of the solutions. Twice a week, when the five machines are concentrating on newsreels, all the developing tanks can be supplied from a huge 2,000-gallon slate tank (made by W. Perrin, this is probably the largest slate tank installed in any laboratory). Different baths can, however, be fed to the several machines from other tanks, and, by control of pumps and cocks, a continual flow of developer is maintained through and from any selected tank. Boost is fed into the tank and is therefore well mixed before it encounters the film.

All the piping is in ebonite, supplied by the

Continued on page 9



A corner of the "Silver Recovery Room" showing three silver-recovery units extracting nearly pure silver from used fixing baths. The motors shown drive Perspex paddles, ensuring continuous agitation of solutions. These machines are designed by the firm's own technicians and manufactured in its own workshops. The used hypo is re-generated and can be used over and over again

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THE MAN WHO STARTED IT ALL

H. Kahn, the "Kine." Paris Correspondent, goes to Correze for this exclusive interview with 88-year-old

CHARLES PATHE

IN the heart of the rolling Correze country in the centre of France lives an old gentleman who will be 88 years of age next December. His name, Charles Pathé: a name recognised wherever there is a kinema or gramophone: a name which is a monument in the film industry.

I went along to see M. Pathé, hoping to talk about those far-off days when he opened his Wardour Street laboratories and started the Pathé News, the world's first news films.

For his age, M. Pathé is quite amazing. Tall and upright, he has a remarkable head of snow-white hair.

"I like three things," he told me: "Rising at six in the morning, playing cards and listening to someone reading extracts from books written about the kinema. That brings back memories. My health is good, but my memory, I'm afraid, is not so good as it might be."

RETIRED IN 1929

M. Pathé retired in 1929 although he did not cut off all kinema activity. He has not seen a film, however, for about six years.

I asked him if he remembered Wardour Street and he said he did, faintly.

"I remember the street, but I cannot remember what the laboratories looked like," he told me. "But I do recall that in my early days a German named Popert, who spoke several languages, first started selling Pathé films in England.

"He did good business, and it was then that I decided that we had to have a branch in London. If I remember rightly, I had an English administrator in France whose name was Ivatts, and he suggested his brother, who was a charming fellow, should take over the London offices, but as far as I recollect, he was not a very good business man.

"But there was no reason why he should have been. In those days, around 1902, we did not rent films but sold them outright, and they went like hot cakes. There were no import problems, so we just sent our negatives to Britain and they sold themselves.

Ivatts, I believe, later took a post in France. He was succeeded by Louis Solenne.

"I knew many pioneers of the British film industry. R. W. Paul was one. Then there was a man named G. A. Smith, whom I do not remember as well, and another called James Williamson, whom I have almost forgotten. Paul, who, I think, was the best of the lot, made some excellent pictures. They were so good that I copied some of them—but then in those days we all copied one another."

IN "THE STREET"

I asked M. Pathé how he came to open the Wardour Street laboratories and this is what he told me:—

"When I first went into the business I realised that films had a tremendous future, in fact, I imagined that the screen would replace the theatre, the newspapers and the schools. I suppose I was a little too enthusiastic, but I had tremendous faith.

"In France, I had been making a variety of films based on current events, such as the Dreyfus affair, the Boer War, the Russian-Japanese War. These films were, in their way, just dressed-up, reconstituted news films, and they naturally led direct to the idea of really filming the news while it was happening. That was how the Pathé Journal was born.

"After I had decided to start a Pathé News for England I realised I would have to have a laboratory. First of all, the news films had to suit the British public, and, secondly, I aimed at including the very latest news, which meant that shots might have to be added to the twice-weekly editions of the film at the last moment. Actually, when big news broke we issued three news films a week and even more.

"I suppose it was Ivatts who founded the Wardour Street premises for me, although I cannot really remember. In any case, I doubt whether the street was a film centre then and I believe I was partly responsible for making it one."

(*Pathé's first laboratory premises were opposite the present laboratory, at* 80, *Wardour Street. It was opened in* 1910 *as a branch of the head office in Charing Cross Road.*—ED.)

"I shipped material and apparatus from France. Over the few years preceding my London expansion France had made tremendous strides in equipment. In 1897, for example, we used to hang the positive film from the ceiling to dry. But a French firm called Continsouza changed all that and by 1908 or 1909, when I started in London, I was able to send over some first-class equipment. Later, I bought British equipment, but I believe all the technical heads were French. I used to visit London every two or three months for a week or so. I went primarily to see that the films were being well made.

"I mean this. I would see the films and would make more than a fuss if there was a mis-rack; that, I know, was due to bad perforating. I think the staff was a little afraid of my temper and the attention I paid to detail, although on the whole I think I was fairly popular. In any case, I was one of the few employers in those days who gave 15 days' holiday with pay."

M. Pathé told me about his Foots Cray venture. "On one of my visits to London," he said, "I discovered the existence of a small firm at Foots Cray, in Kent, which was trying to make film. The whole kinema world at that time, of course, was dependent on Eastman for their film." (*The firm in question was Blair Photographics.*—ED.)

"I bought that factory, which was using an almost primitive rudimentary method of manufacture. The installation I found was impossible, so I brought over an English-speaking French engineer from the Ecole Centrale and he went to work.

8,000 METRES A DAY

"We bought celluloid from the Celluloid Company of New York and within months Foots Cray was turning out about 8,000 metres of stock per day. But the quality was not very good.

"We used most of the film for titles and sub-titles for Pathé News in all languages, but there were hitches. I was not able to visit the factory as often as I wished and so I decided to build another factory in France. This brought violent threats and opposition from the States, but that did not deter me. In any case, that is another story."

M. Pathé explained how the first World War changed everything. He had to close all branches which were not paying their way. This did not include London, although the board of directors wanted to close it. Pathé stopped that, however.

But by the 1920s the position had changed. The United States had crowded France out and M. Pathé decided to sell. Pathé News continues, of course, but for the rest: "Britain became just a memory," he told me.

The last film M. Pathé saw was "Les Enfants de Paradis," which he liked. "On the other hand," said Mme. Pathé, "one of his children thought they would show him a small film of the family which had been taken. When he saw that he left the room in disgust, complaining about the quality. You see, at 87 he is still as exigent as ever."

The Stroller Said This in 1909

A CONTEMPORARY portrait of Charles Pathé is given by "The Stroller" in the "Kine." of April, 1909. Writing from Paris, where he had attended an International Convention of Film Manufacturers (Producers.—Ed.), he says:—

"M. Charles Pathé struck me as every inch a gentleman who, unlike the cool, calculating Yankee, was alert, bright, and full of vivacity and whose nerves were at high tension. He had just motored over from the works at Vincennes, and although nine others were awaiting an interview, he greeted me directly my card was sent up, and in twenty minutes' straight talk I learnt his tremendous will power and his ability to move with diplomacy to attain definite end which he was wise enough to keep to himself."

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THE BUILDING FLOOR BY FLOOR

How It Has Been Planned to Attain the Highest Pitch of Administrative and Technical Efficiency

ONLY those who in pre-war days were frequent visitors—and they were many,—to the Pathé Studios and Laboratories in Wardour Street will fully appreciate the transformation in the premises which has been carried out by the architects, Verity and Beverley, and the organisation's technicians. A tour of the building emphasises the extent of the replanning which has resulted in the provision of premises designed to attain the highest pitch of administrative and technical efficiency at every point.

Externally, the Associated British-Pathé block of 103-109, Wardour Street, presents much the same appearance as in earlier days. It is within that the changes have been wrought that serve to substantiate the claim that the laboratory installation is the most modern and complete in the country.

The entrance floor is a spacious apartment and combines a reception and despatch counter, offices and the positive developing room. Glass block is used for much of the walling at both ends of the room, the back wall, which actually divides the fan room from the drying cabinet, is artificially lit with daylight units. The floor of the drying room is finished with quarry tiles, between which bitumen has been poured to make a completely watertight surface. Stairs downward lead to the basement, where is the heart of the physical circulation department—transformer rooms, chemical mixing rooms, circulation pumps, air conditioning apparatus and the like, which must wait for detailed description later.

The Transformed Studio

In order to follow the sequence of film production more logically, let us take the lift to the fifth floor as in old days to find the studio presenting an appearance that strikes one immediately by its efficiency and its up-to-date equipment.

Re-planned and with a lighting installation of 1,000 amps and the latest type RCA recording gear, it affords facilities for a wide range of picture- and sound-recording needs.

The fourth floor is occupied by the ancillary departments of the studio, conveniently appointed dressing and make-up rooms for artistes, camera loading room, production offices, various workrooms and carpenter's shop. All activities connected with production are controlled by the production department head, Howard Thomas, whose offices are in Pathé House, Oxford Street, a couple of hundred yards distant.

On this floor is also an analytical laboratory in which is to be found a remote control *p*H recording meter from which can be read the conditions of the six processing baths in the ground and first floors. Here also constant chemical analyses of developing solutions are made, the silver content of used fixers is carried out and other specialised control work conducted. A small darkroom is equipped with an Eastman type 26 sensitometer, an Eastman process control sensitometer and other equipment.

Administration and Examination

Administrative offices connected with the laboratory occupy the third floor, a thorough replanning having concentrated a great deal of essential activity in the space available. The test theatre and its projection room, equipped with Ross XL projectors, operating with RCA standard type LMI 9031 soundheads, occupies space on this floor. The soundheads are substantially similar to the kinema type, differing in being driven by synchronous three-phase motors and incorporating provision for scanning "push-pull" as well as standard tracks. The output motor of the installation is calibrated in decibels, a five-position range switch covering minus infinity to plus 36 dB.

Every attempt has been made to make the acoustics of the test theatre as perfect as possible, and to approximate the amount of illumination on the screen to the average kinema. Seating is by Pathé Equipment. On the right is E. Potter, laboratory foreman

Routine inspection of release prints is also carried out on this floor by viewer-projectionists who operate 35-mm. projectors using tungsten lamps as light source.

The positive examination department and main printing room are on the second floor. For the former, tables of a unique design have been specially manufactured to the order of AB-Pathé, and negative cleaning machines, contained in fume-proof cupboards, and two Vinten edge-waxing machines are installed. It is in this room that prints are finally packed for despatch.

(The processing equipment on this floor and the first and ground floors receives a full descriptive treatment at the hands of R. Howard Cricks in an article on another page. To this, readers are referred.)

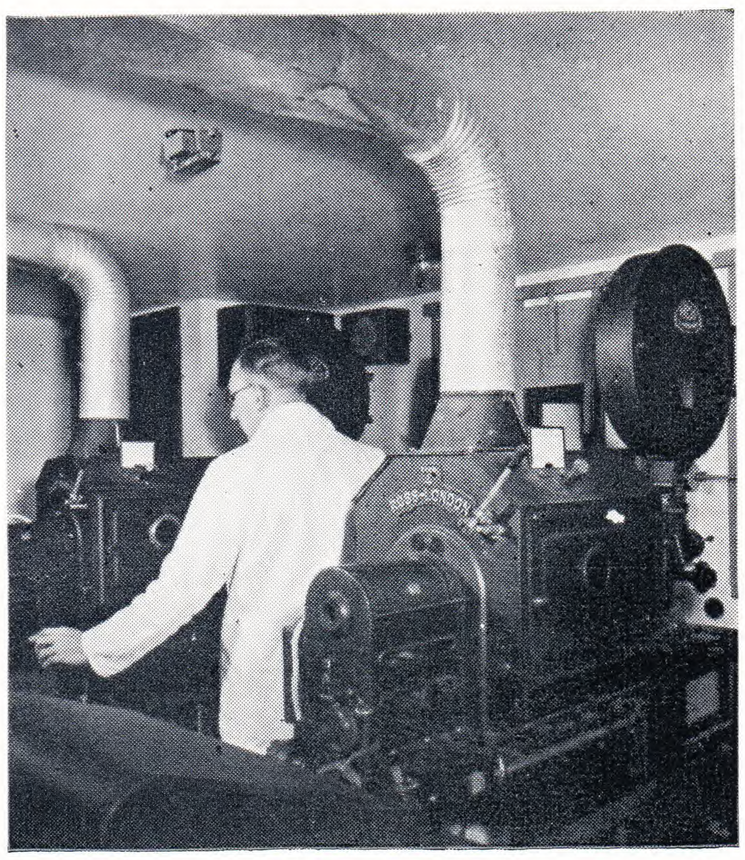
Basement Activities

Descending to the basement, one finds on the right the transformer rooms of the London Electricity Board and on the left the main switch room for the whole of the laboratory. Rotary converters provide DC for printing lamps for the second-floor machine.

Other activities situated in the basement are the chemical-mixing room with dry chemicals store, and the main tank room. The tanks, supplied by W. Perrin, are of slate, specially selected from Welsh quarries for their freedom from blow holes and other similar defects, and containing Inconel heating and cooling coils and Short and Mason thermostat control apparatus.

In front of the tanks are the circulation pumps sending the solutions to the various developing machines. A Metafiltration unit and a Permutit water-softening apparatus are installed for the chemical mixers.

In the silver-recovery room all used fixer returns by gravity and is dropped into the appropriate vat containing the electrodes which separate the silver from the solution. Perspex paddles, revolving at high speed, supply the essential turbulation.



The Ross studio-type projector with RCA sound, installed in the theatre, shown above

The current for this plant is supplied from a Westinghouse metal rectifier—refutation of the previously held idea that metal rectifiers were unsuitable for low-voltage loads.

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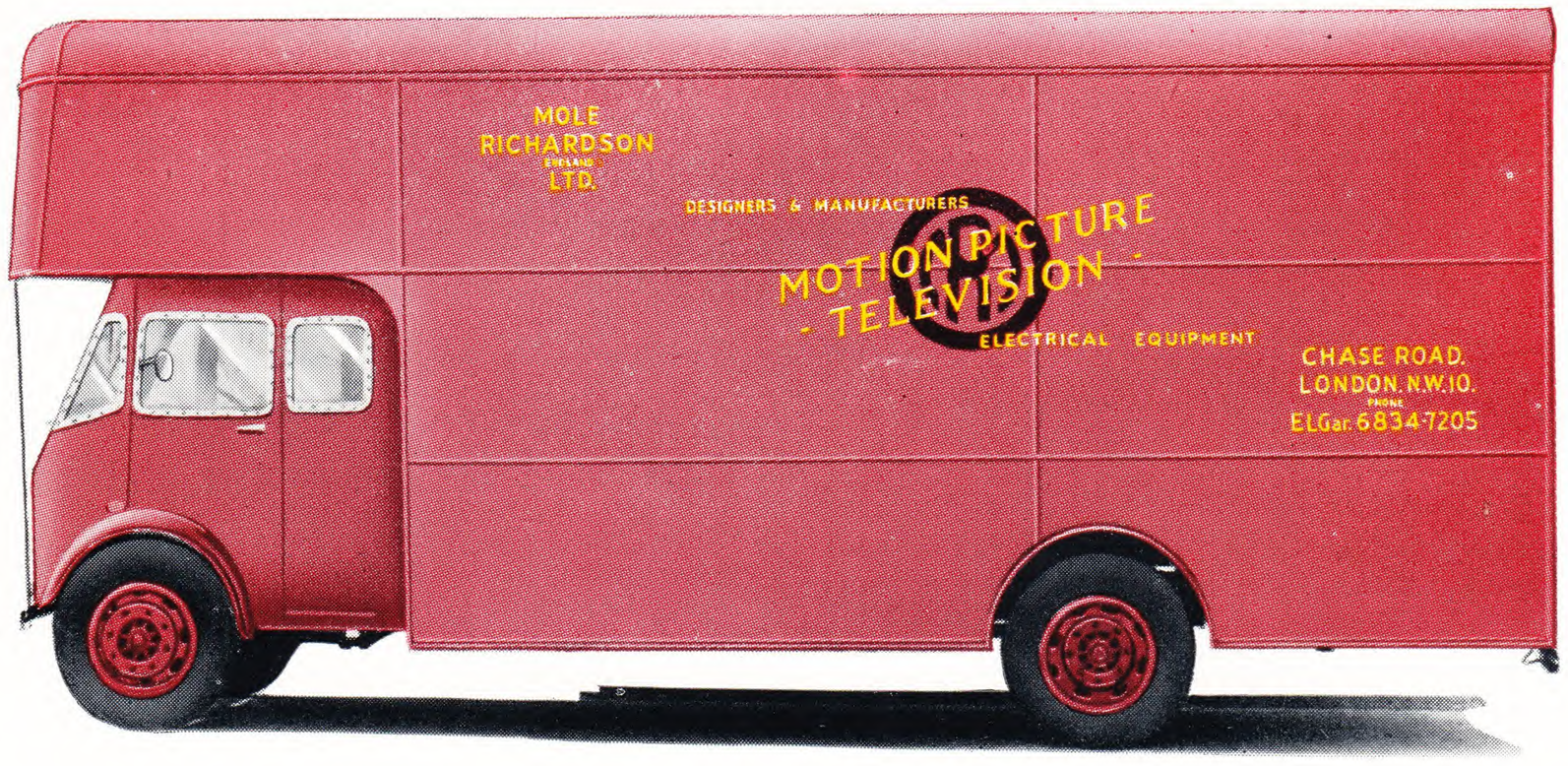


THE LAB. OF TODAY

Continued from page 5

British Ebonite Co., Ltd. All water used for making up baths is softened by a Permutit water softener.

A factor generally appreciated today is that the use of a developing bath until it is exhausted, then throwing it away and replacing it by a fresh one, makes consistency impossible. Thanks to the circulation system, and to the Meta filtration plant through which the bath flows, the developer is everlasting. It is anticipated that the system will need to be cleaned out about once a year, and the new developer will then be made up, not to the customary D-16 formula, but to the actual composition to which the bath has settled down, as ascertained by analysis.

Circulation System

Hypo also circulates through the developing machines and storage tank. At regular intervals it is fed into a silver recovery plant, which has been specially designed by Pathé technicians. The hypo is pumped through large plating vats, in which, at a pressure of 2 volts and a current of 100 amps. or more, the silver in the hypo is plated upon stainless-steel electrodes, from which it can be easily chipped off. A high degree of agitation is necessary to avoid the formation of sulphurous impurities; the silver produced is 98 per cent. to 99 per cent. pure, and its weekly value runs well into three figures.

The low voltage, DC current required for this recovery process is supplied from two Westinghouse "Westalite" rectifier sets, model LAP.8/25. With a power consumption of about 350 watts, these sets convert the 200/250-volt, single-phase AC input to a DC output up to 25 amps at a maximum of 8 volts. Two four-position tapping switches on each set allow 15 steps of control, reducing the output to about 1 volt at 25 amps. The complete rectifier and transformer sets are housed in sheet steel cases, measuring $21\frac{1}{4}$ in. x $16\frac{1}{4}$ in. x $17\frac{3}{4}$ in., and incorporating a moving-coil ammeter and voltmeter.

Thanks to this system, the hypo is regenerated and can be re-used for an indefinite period—an important factor in these days of chemical shortages!

New Control Factor

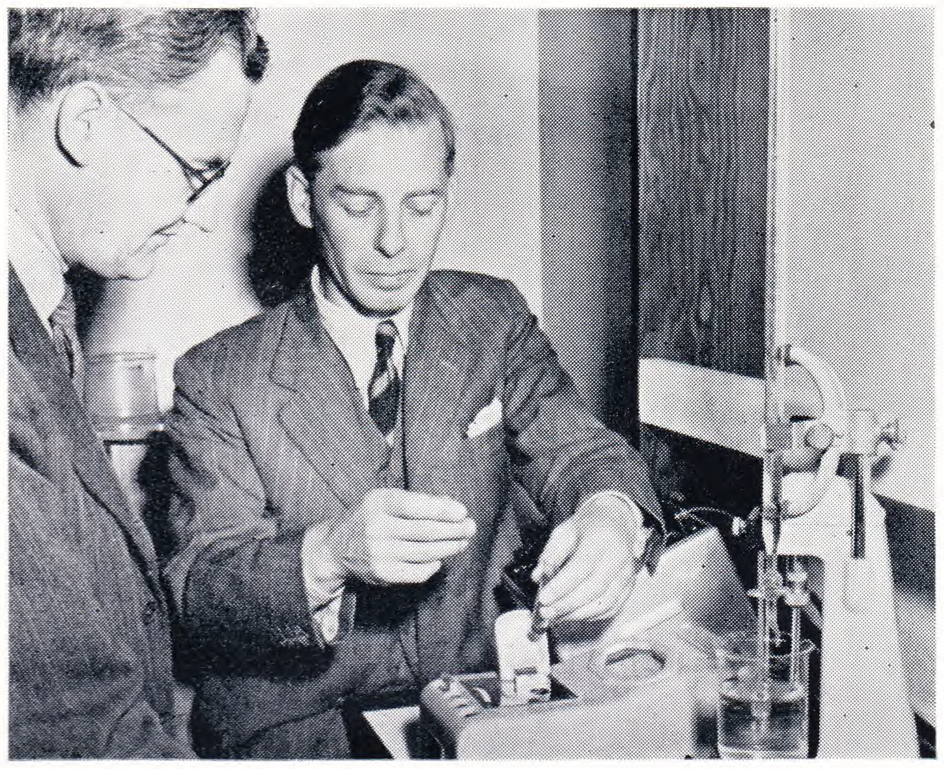
The second important factor in maintaining consistency of output is the maintenance to within close limits of the temperature and alkalinity of the developer. Continuous temperature control is nowadays taken for granted; in each of the tanks are Inconel coils carrying hot or cold water. Continuous pH control is new.

In the developer tank is a huge electrode which is connected through a selector switch to a meter. In R. H. Bomback's little laboratory on the fourth floor—the technical control centre of the plant—is a recording meter, the line traced by which gives a continuous record of the pH of whichever bath is in use. A Cambridge pH meter is also installed for checking.

Here also the silver content of the hypo is regularly checked. A colloidal suspension of the silver is produced and from readings on an Evans colorimeter the silver content can be computed.

From the developing plant the prints go to a well-lit cutting room on the second floor. This is equipped with an excellent type of splicer of French make, the Farragi, which has for years been exclusively used by Pathé. On the floor above is a handsome little viewing theatre, the projection room of which is equipped with Ross studio projectors with RCA sound; the arcs are fed from Nevelin rectifiers. Near by is a checking theatre in which are three Kalee projectors fitted with 1,000 watt filament lamps and projecting both picture and sound-track on to the screen.

The whole of the equipment so far described is for positive processing. A negative department, although physically in the middle of the laboratory, is an organisation entirely separate from the rest.



In his own laboratory on the fourth floor—the technical control centre—R. H. Bomback, assistant manager, demonstrates to R. Howard Cricks, the writer of this article, how the Evans Electroselenium Colorimeter is used to ascertain the silver content of the used hypo bath

A Western Electric Densitometer cuts out human errors in reading gamma strips. Negative tracks are graded and positive sound track densities are checked on this machine, which reads to a density value of .01

Negative Department

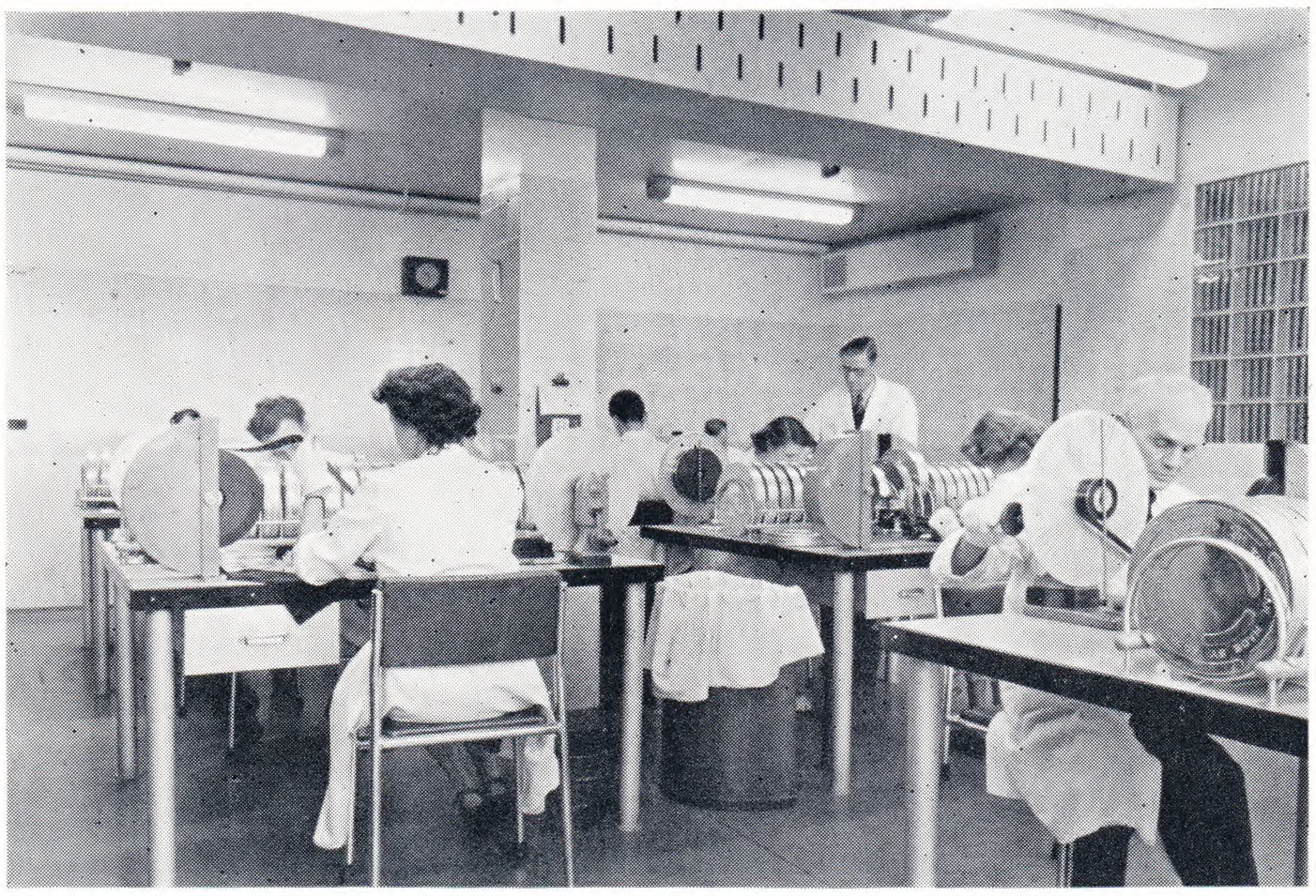
On the first floor is the negative developing room, again well lit, although the windows have iron shutters which can be dropped to exclude light in the remote event of a fault necessitating the machines being opened up. This room is equipped with two more "Multiplex" machines, which have their own chemical circulating system; in the adjoining room are storage tanks and pumps.

Close by is the sensitometric room, where are Western Electric and Capstaff densitometers. Here negatives are graded for printing, and the light control cards for the printers are prepared. The negative cutting room is adjacent.

It will be gathered that structural considerations have prevented the most logical arrangement of the plant to provide a natural flow of work. The difficulty has, however, been effectively overcome by the provision of an automatic film lift at either side of the building, so that, although the film has to travel from floor to floor, each reel is delivered to the actual point where it is needed, and no time or effort is wasted.

Yet another factor that makes for consistency of output and the comfort of the staff is that the whole building is air-conditioned, and, in those rooms where film is handled, close hygroscopic control is provided, so assuring that when a reel of film leaves the laboratory it is in perfect hygroscopic condition. The air-conditioning plant was installed by the Carrier Engineering Co., which was also responsible for the drying plant for the developing machines.

A considerable quantity of heat is necessary, and the former coal-fired furnaces have been replaced by Ideal oil-burning boilers.



The positive examination room illuminated by Mazda fluorescent fittings. Note the ingenious racks upon which cans of film are placed

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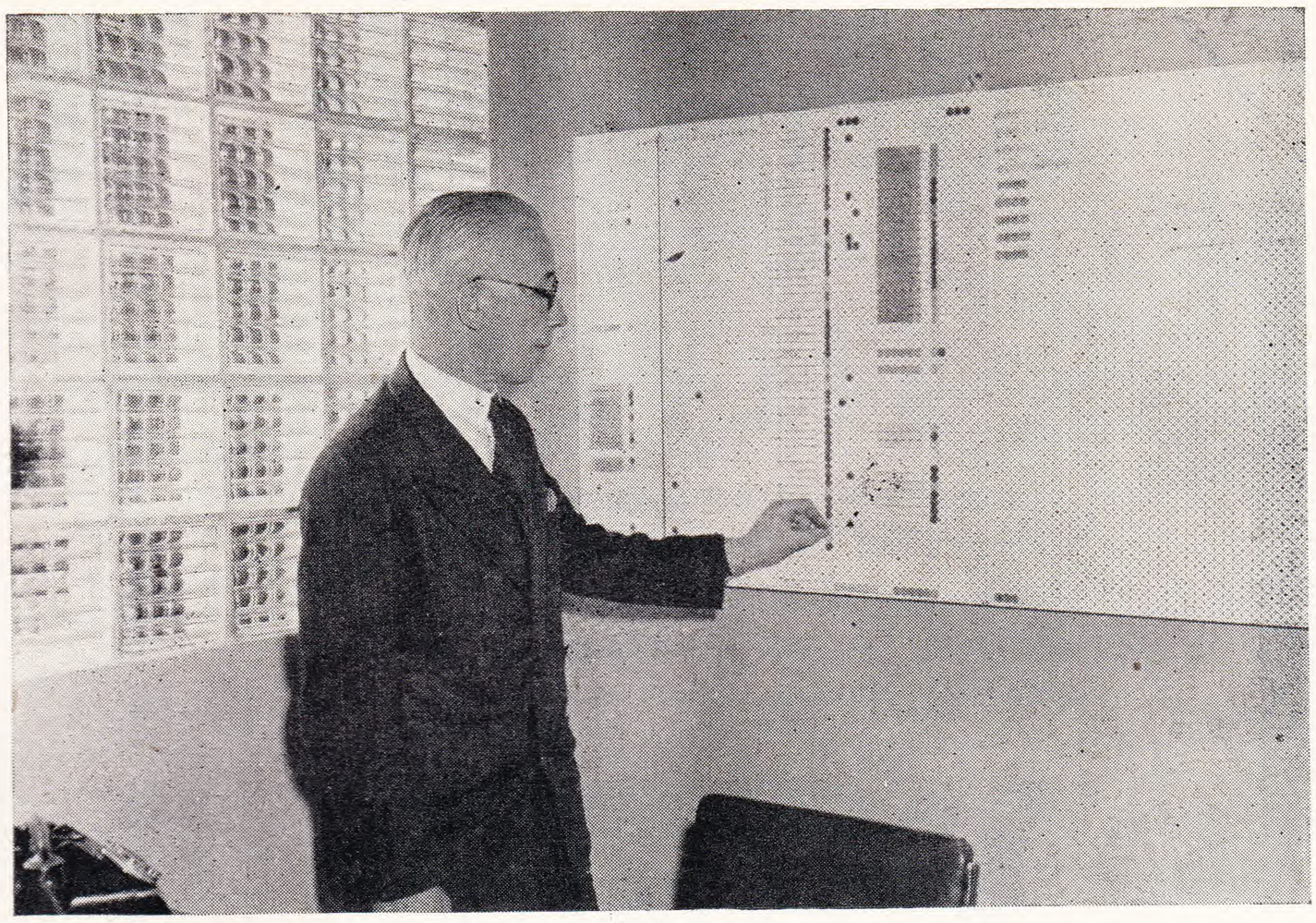
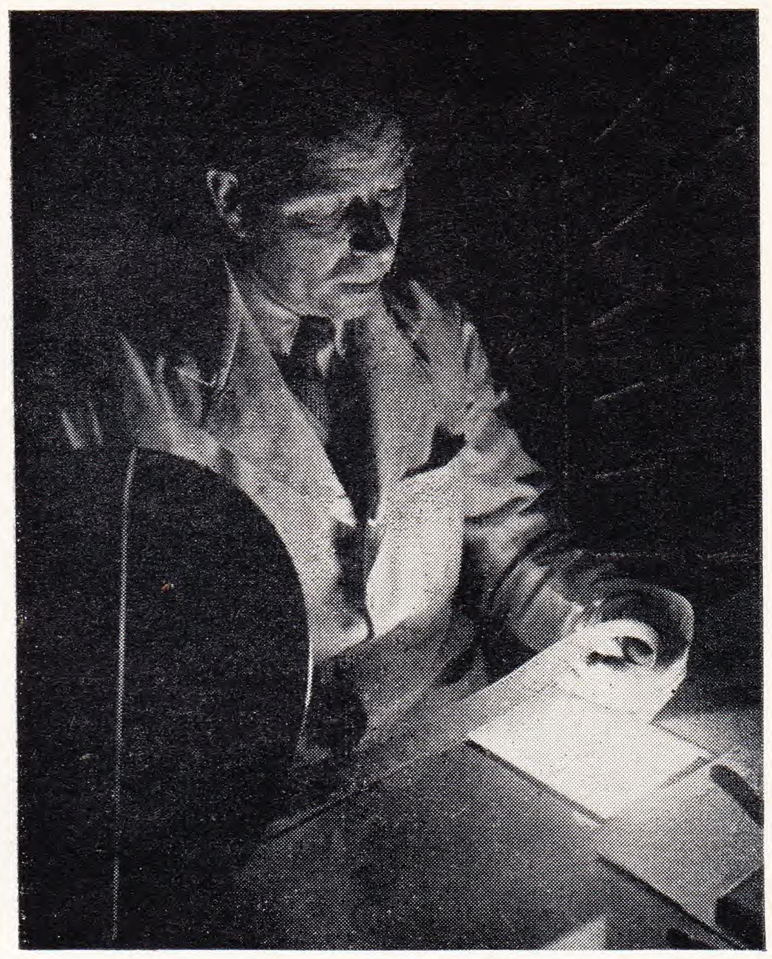


Progress supervisor Frank Fuller makes adjustment to his planning board. During the twelve months while the laboratory has been re-equipped he was responsible for 16-mm. negative development at Elstree



Although a Cinex machine is available when required, grading of negatives is normally carried out visually by a team of experienced operators

PATHE—PROGRESS IN PROCESS—*Continued from page 3*

the progress supervisor, and who points out that the Pathé technique today is quite different from his recollections, when, as a youth, he entered the Pathé lab. in 1921 and started working in the dark in what was then known as the "drum room." Fuller specialises in the positive processing side of the work and reached his present appointment in 1948.

The lab. can be kept at a steady temperature in summer or winter, and this is another feature which makes working there an attraction.

Mr. Phillips is wary of making statements about output, but is hopeful that it will be at least 100 per cent. above the output in the old lab.

He is enthusiastic about Pathé traditions—traditions which are reflected in the staff records. For example, Bill Sharp, who is now in the examination department, joined the Pathé organisation in 1912.

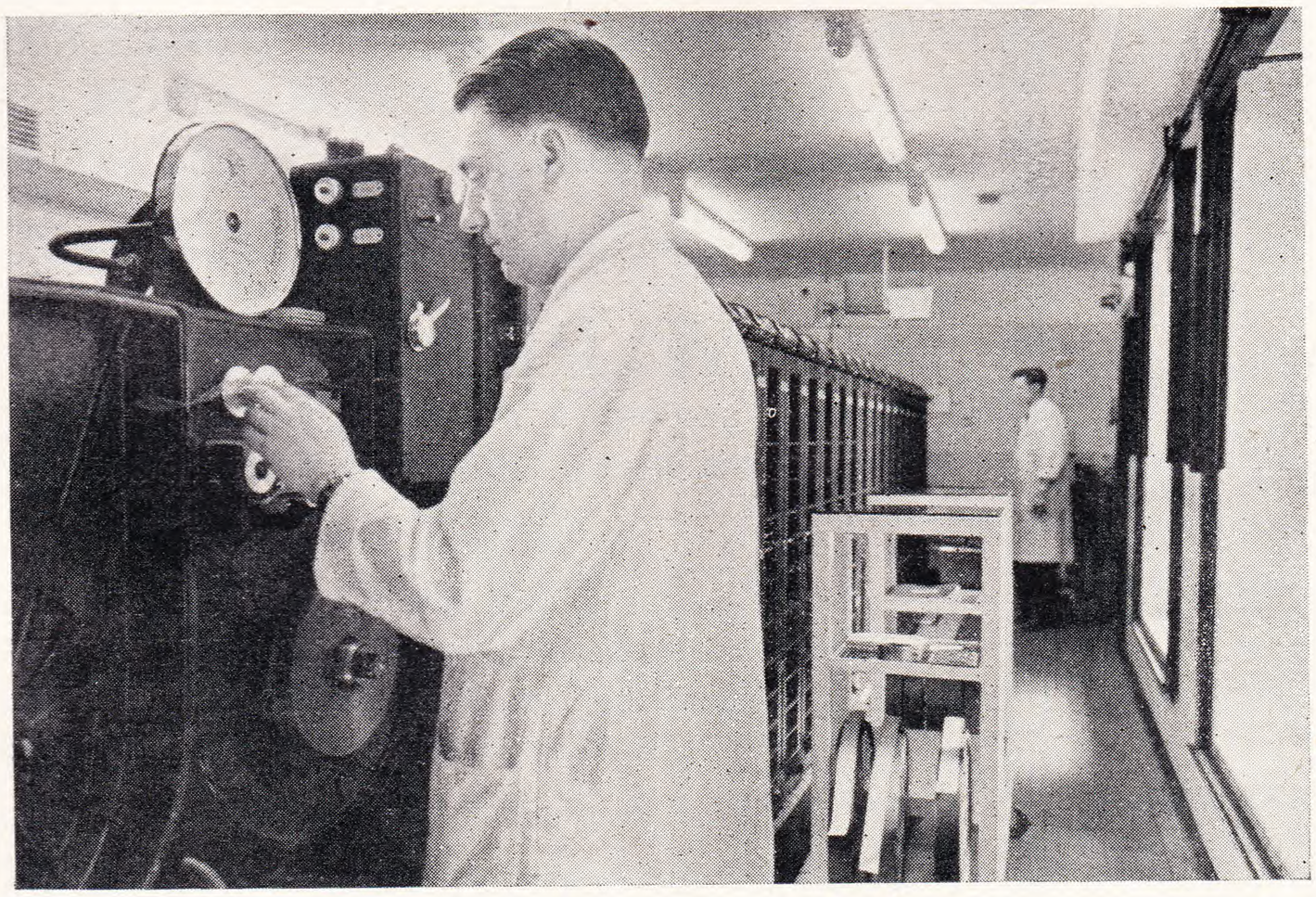
Richard H. Bomback, assistant manager, however, is a comparative newcomer. He joined the company in 1946 from the Kodak laboratories at Harrow, where for a number of years he acted as assistant to the director of research.

He is a graduate of London University, with a first-class honours degree in chemistry, and is an Associate of the Royal Institute of Chemistry.

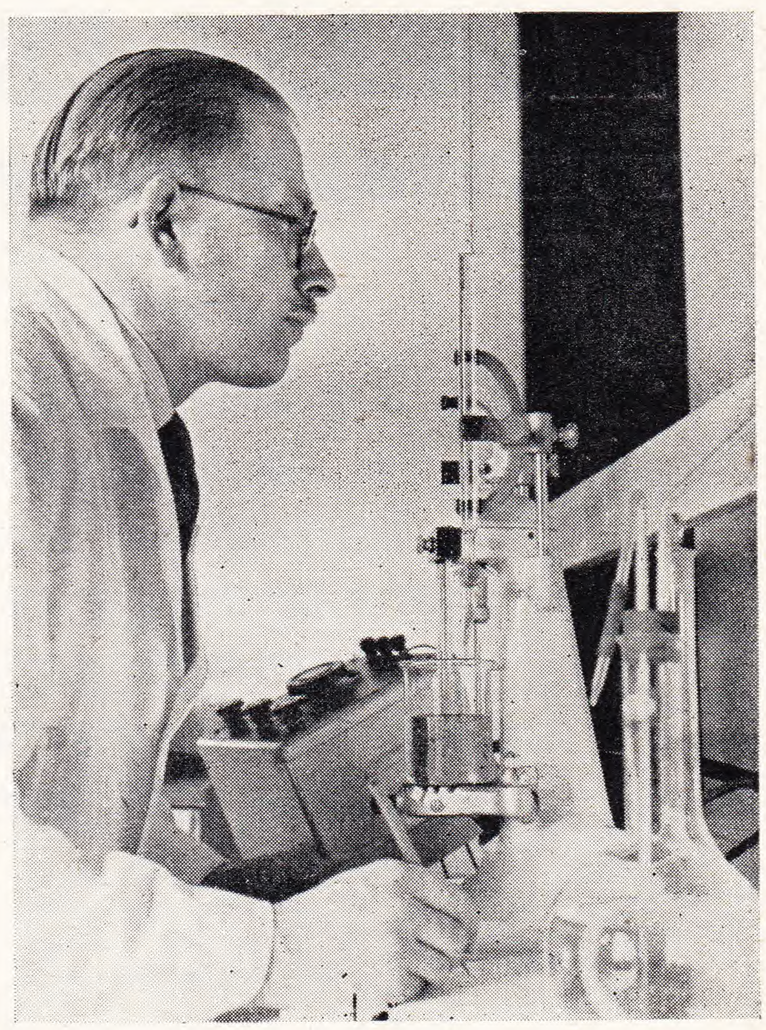
He is responsible for the technical control and operation of the various stages involved in film processing. He has made a special study of both 35-mm. and 16-mm. films and of such specialised techniques as photographic duping.

Ernest Potter, the laboratory foreman, joined the organisation in 1923 on the clerical side, soon to be transferred to the printing room. He had had experience in most of the laboratory departments, including 16-mm. at Elstree.

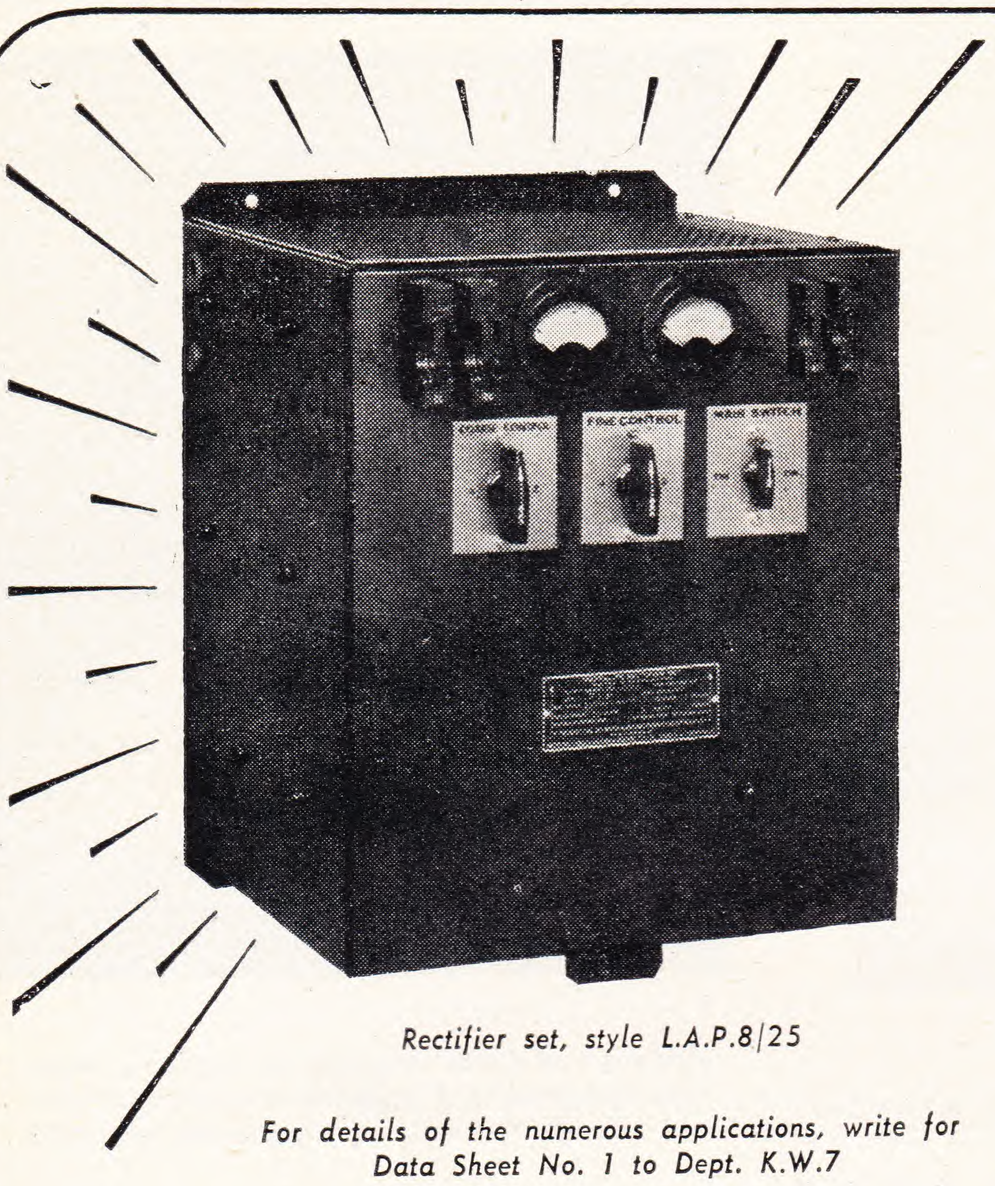
His present appointment dates from 1948.



A Debrie "Multiplex" negative developing machine on the first floor. This is normally operated in full daylight. Film exposed on the printing machines is conveyed in the light-tight magazines seen in the trolley, which are placed in the take-off cabinet of the developing machine (seen open for re-loading)



D. Webb, laboratory chemist, at work in the testing laboratory on the fourth floor. This room is a very essential part of the plant, because apart from the necessity for testing the batches of chemicals, carrying out melting point tests, the nature of the developing system depends wholly on stringent sensitometric control of all developing solutions



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FEATURES OF ANCILLARY INSTALLATION

Modern Technical Equipment

A WIDE range of contractors has been employed for the work of modernising and rendering efficient to the highest point the AB-Pathé studios and laboratories in Wardour Street.

General contractors, working under the instructions of Samuel Beverley, F.R.I.B.A., were Thomas and Edge, of Woolwich. Floors and roofs were the work of Ragusa Asphalte, Ltd. Composition floors, laid by Protheroe and Macnab, are of a cork and plaster compound, which is oil-resistant and can be wax-polished. Plumbing was carried out by Dent and Hellyer Sanitation, Ltd., and electrical installation by Pulver, Ltd. Structural steelwork was erected by Moreland Hayne, Ltd., and pre-cast floors were installed by Rapid Floors, Ltd.

The floors of the positive and negative developing rooms are composed of dark brown quarry tiles laid by Carter and Sons (London), Ltd., with a wide joint which is filled with a special acid and alkaline-resisting bitumen, thus safeguarding floors against the action of hypo and developer. Wall tiles were supplied and fixed by this contracting firm.

A covered way involving the erection of steelwork, glazing bars, glass and gutters was erected by Faulkner, Greene and Co., Ltd. London Stone Cleaning Co. cleaned exterior stonework, and Haskins, Ltd., supplied roller shutters.

The boiler system was installed by Ideal Boilers, Ltd., a steel boiler chimney, 2 ft. in diameter and 100 ft. high, running from boiler-house to roof, was built by Rye-Arc, Ltd. Carrier Engineering Co. air-conditioning and drying plant supplies the atmospheric essentials; fire hydrants being by Merryweather, and sprinklers by Independent Sprinklers, Ltd.

Merryweather appliances include hydraulic hose reels, extinguishers and sand buckets to cover every floor of the building. There is 60 ft. of hose on each reel, and water is at the nozzle at full pressure immediately the valve is opened.

Sound Recording

Supplying equipment for the laboratory are several films with names well known to the trade.

A total of six RCA recording channels are operated as follows:— Two combined film newsreel equipments fitted to Mitchell cameras and mounted in specially adapted Wolsey cars; one sound truck; one re-recording channel and re-recording console; one studio channel and one 16-mm. channel.

The studio channel, RCA PM 45, is installed in the Wardour Street studios, together with an RCA soundhead and picture projector. Into this studio may also be brought the 16-mm. channel and equipment designed to record either positives or negatives, and to run in either direction to cater for sound used with reversal colour films.

Acoustic demands were met by an installation of acoustic material supplied and fixed by Horace W. Cullum and Co.

Evans Electroselenium, Ltd., has supplied three instruments:— A screen brightness meter, a colour temperature meter and a GP photometer, and in addition a specially developed instrument which is best described as a film scanner which enables the general density of kinematograph films to be measured.

Recording *p*H meters have been supplied by Electronic Instruments, Ltd.

Acid vats have been supplied by Doulton slate tanks by W. Perrin, and filter plant by Meta Filtration, Ltd.

Rotary converters for providing DC for printing lamps were supplied by Fuller Electrical Co., Ltd., and metal rectifiers for electro-deposition by Westinghouse.

Furnishing and Fixtures

Furnishings and fixtures cover a wide field: Pathé Equipment, Ltd., supplied and fixed theatre chairs and laid carpet; staircase nosings were by Safety Tread Syndicate. John Boldings installed sanitary fittings; BT-H supplied light fittings.

New, automatically operated lifts have been installed by Marryat and Scott; that in the 109 entrance being for the use of passengers, and the one in the entrance to No. 103 for the carriage of goods, up to a maximum weight of 2,000 lb.

Suiting Light to Task

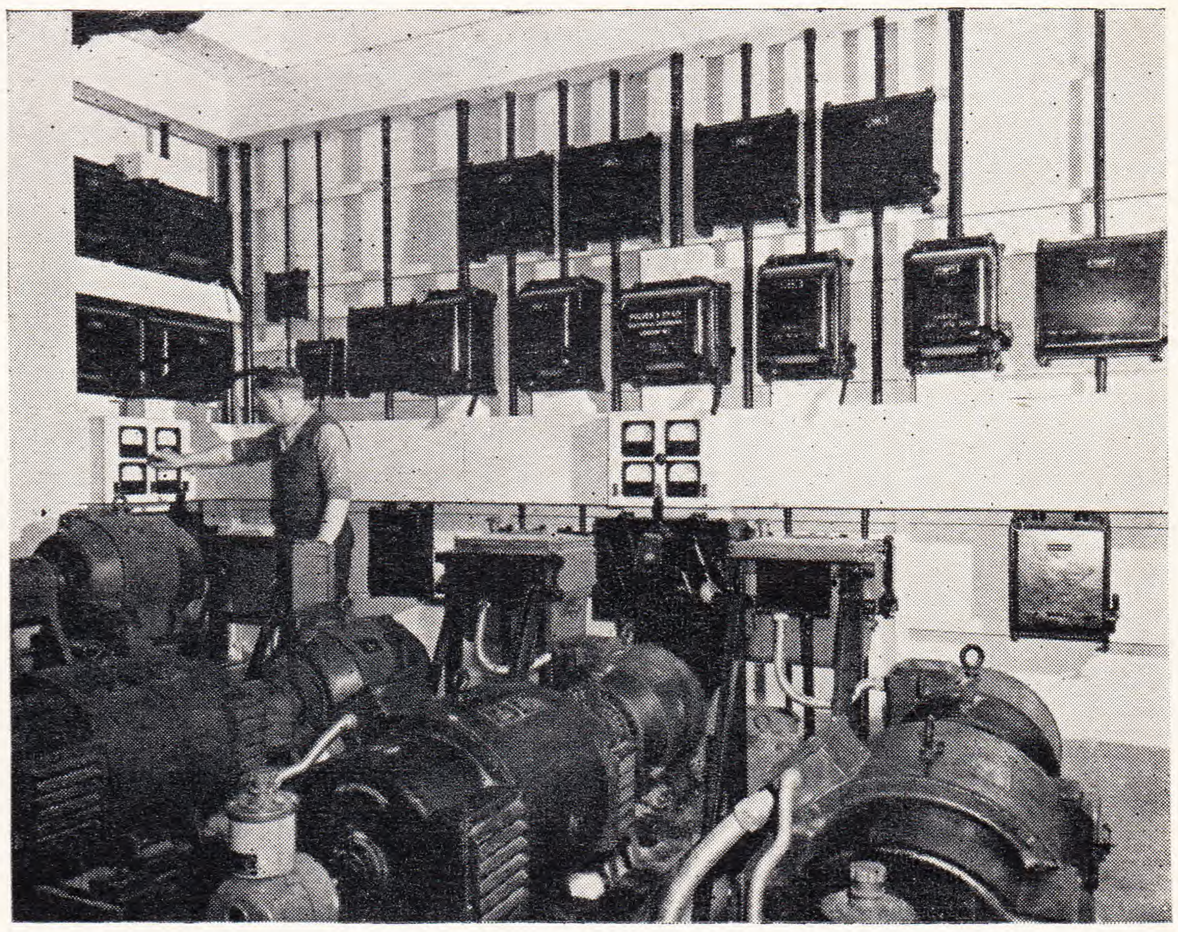
A high standard of lighting to facilitate the intricate and extremely efficient work demanded of this branch of film making was essential. So, throughout the building Mazda fittings are employed, the actual type of fitting in each case having been chosen in accordance with the work carried out. In areas where film is handled, fittings are of the F1210 type since these comply with safety regulations and also ensure a good diffusion of the light.

Most other areas, including passages, are illuminated by Mazda F1010 fittings. the basement having tungsten lighting. Executive offices have F1214 louvred fittings which combine a pleasing design with high efficiency lighting.

A feature of particular interest is the lighting of the positive developing room. This room has no actual daylight but a partition of glass bricks has been built along one side and is lit from behind by fluorescent fittings to give a very realistic impression of daylight filtering through. The psychological advantage of this type of lighting, where there is no provision for natural light, has long been recognised by architects and illuminating engineers and is here effectively demonstrated.

There is a general intensity of illumination throughout the building of 20 lumens per sq. ft., but this is increased wherever the visual task calls for a higher level.

The examination room where negatives are checked, reported on and made ready for the printing machines



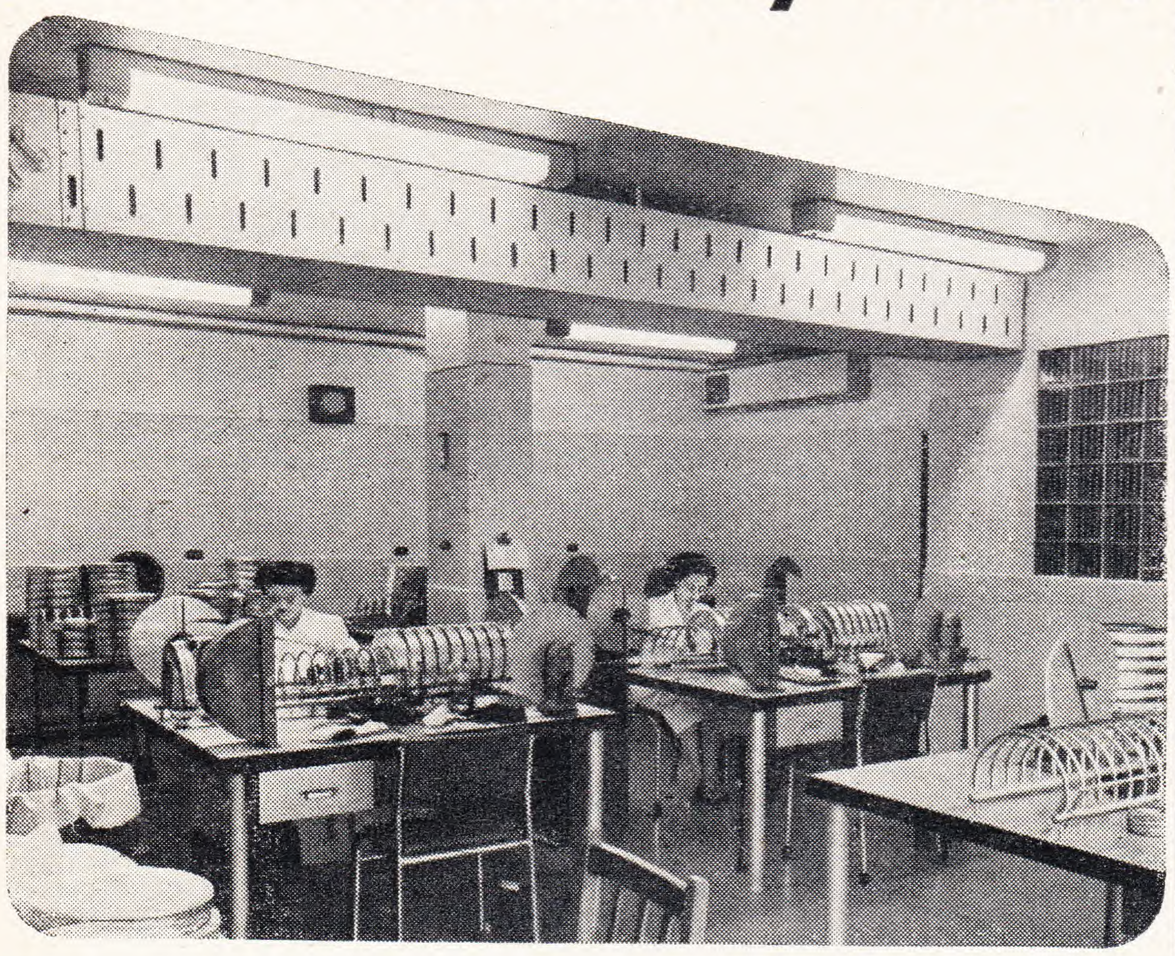
Rotary converters with Isenthal regulators for the supply of direct current to the printing machine lamps. Absolute consistency of voltage is assured for printing of both picture and sound

For Swift Communication

Swiftness of communication between executives and staff is an essential of so complicated a business as film production. Here, Philips Electrical, Ltd., has met the demand with a staff location system, which operates through a 50-watt amplifier some 14 loud-speakers of various types located in the principal departments from a ribbon microphone installed in the secretary's office. Volume of sound is varied in accordance with the needs of the department concerned.

Also installed by Telephone Rentals, Ltd., is a 150-line private automatic exchange fitted with six Paxmaster loud-speaking telephones by which full intercommunication is achieved between departments. An interesting feature is the provision of five tie lines between Wardour Street and Oxford Street premises.

Pathé can really crow!



They've Mazda lighting!

At the Wardour Street offices and laboratories of Associated British Pathé there is some excellent new fluorescent lighting. The effect is remarkably even, and free from shadows. This is particularly important in a building where the natural daylight cannot shine through into every room.
Pictures show (below) Examination and (above) Developing Rooms. Mazda Fluorescent fittings have been used, giving a general illumination level of 20 lumens per sq. ft.

For leadership in lighting

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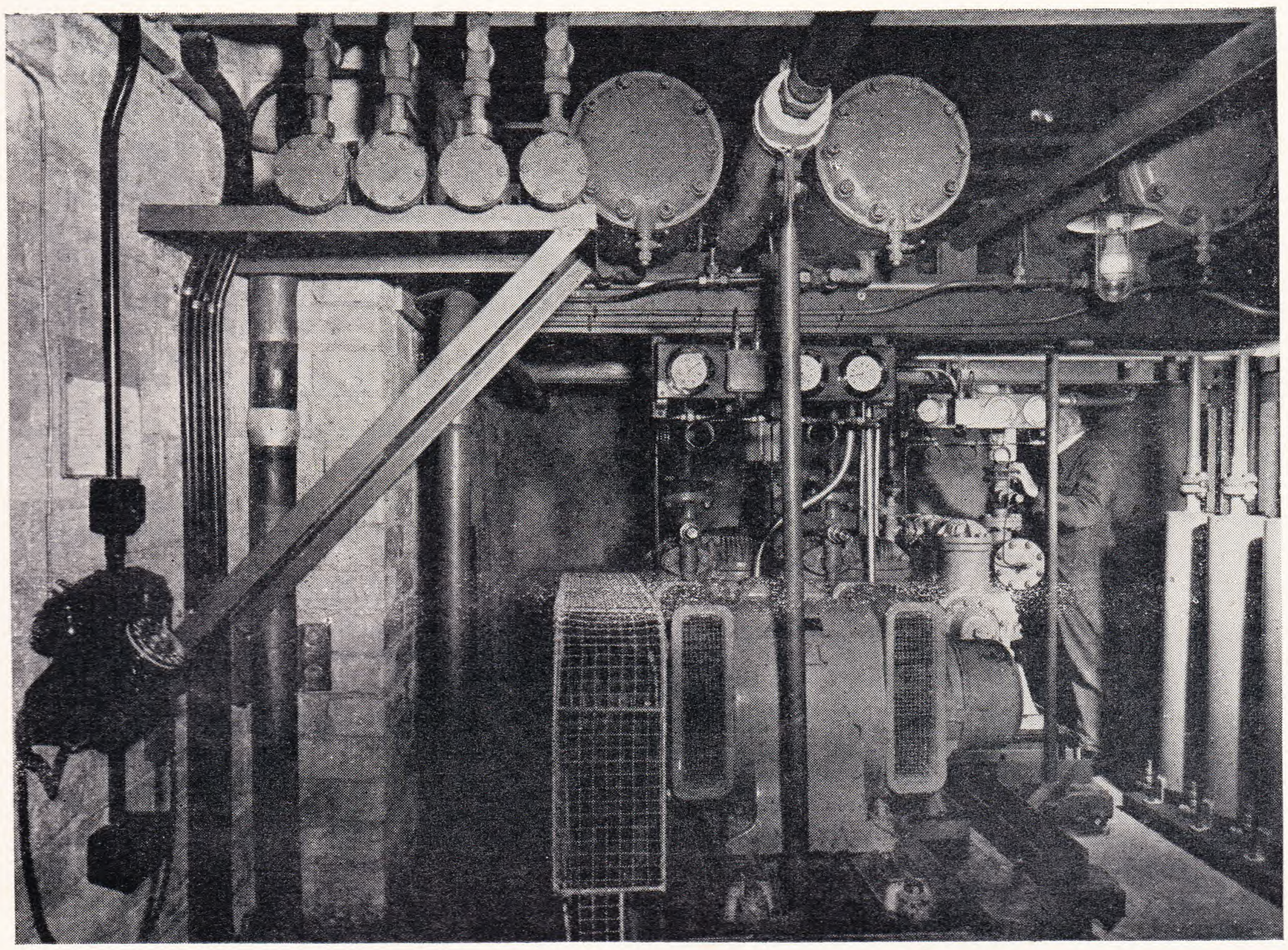


A section of the air-conditioning plant in the basement. Installation has been carried out by the Carrier Engineering Company. All rooms where film is handled are hygroscopically controlled

HOT AIR OR COLD IT'S ALWAYS CLEAN

An Installation to Meet All Working Requirements

IN keeping with all other equipment in this modern film laboratory, a complete installation of air conditioning and temperature control has been designed and provided by the Carrier Engineering Company.

The system supplies heating, cooling, regulation of humidity, air filtration and ventilation according to the particular requirements of the work of each department.

By providing an atmosphere of constant relative humidity the film is processed under conditions in accordance with the raw stock manufacturers' recommendations, and "static" and its resulting troubles are eliminated.

In all sections of the work the question of cleanliness is of the highest importance, and the problem of providing clean air has been dealt with by two- or three-stage filtration where necessary, all fresh air being taken into the building through one protected inlet opening arranged about 30 ft. above street level. From this inlet the fresh air is led to various air filters and then to individual items of apparatus.

Distribution of the conditioned air takes the form of a system of masonry and sheet metal risers and air distributing ducts which connect the air conditioning plant in the basement of the building with the various rooms.

Two oil fired low pressure hot water boilers of a total capacity of 3½ million BTU's per hour are installed, each under automatic control and fitted with the latest type of protective and safety devices. These boilers provide the heat necessary for general heating of the building, hot water services, heating medium for automatically controlled heaters of the air conditioning equipment and the heating portion of the chemical temperature control plant.

Space heating for rooms and corridors not supplied with conditioned air is achieved by the use of cabinet type hot water radiators.

For refrigeration, there are two Freon reciprocating compressors, each driven by a 25 hp motor, controlled by automatic starting gear. The machines, with water-cooled condensers and working in conjunction with a coil type evaporator, provide a storage system of chilled water.

The total refrigeration provided is the equivalent of a supply of approximately 30 tons of ice per 24 hours. The actual output of refrigeration is determined by the need at any particular time or season, the necessary adjustment being obtained automatically, thus ensuring the production of cooling in the most economical manner.

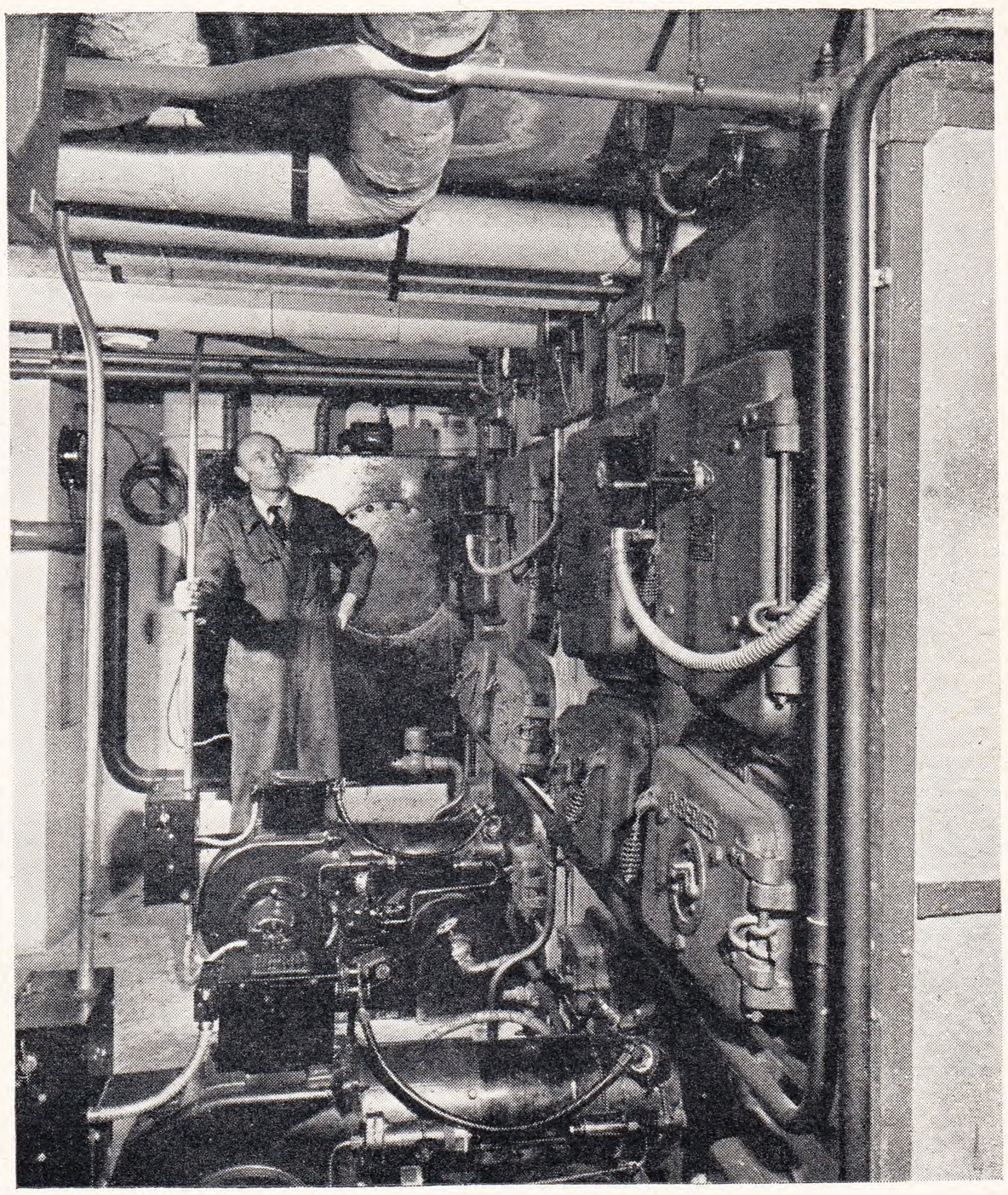
The two refrigerating compressors, which will run together under maximum demand conditions, may be run separately and will normally represent standby capacity over and above the requirements of normal operating conditions. Thermostats in the chilled water tank determine whether one or both machines shall run or shut down completely when the demand is satisfied.

The air conditioning system is divided into a number of circuits and includes one whose purpose is to provide a specific amount of highly filtered air of fixed moisture content to the many film drying machines. Temperature adjustment of this air is also under automatic control, the amount of heating being governed by drying requirements existing at any particular time.

Other branches of the conditioned air supply, filtered and washed by very finely atomised spray of water, are delivered by the supply fan to different zones of the air conditioning system.

These zones contain automatically controlled air heaters.

By means of thermostats in the conditioned rooms, the temperature of admission of the air is corrected according to the rise and fall in the internal heat gains.



The oil storage tanks are situated under the canteen and cloakrooms in Berwick Street. These boilers are entirely automatic

THEY HAVE HELPED TO STREAMLINE EFFICIENCY

THE following firms have supplied service, materials and installations to the building and equipment of the laboratories of Associated British-Pathé at 103-109, Wardour Street, W.1, the architects of which were Verity and Beverley :—

Thomas and Edge, Ltd., 25, Greens End, London, S.E.18 : General Contractors.

Carrier Engineering Co., Ltd., Bridle Path, Watford : Air Conditioning and Drying Plant.

Dent and Hellyer Sanitation, Ltd., 35, Ormond Close, London, W.C.1 : Plumbing.

Ragusa Asphalte Paving Co., Ltd., 55, Oxford Street, W.1 : Floors and Roofs.

Hugh Bros., Ltd., 151, Old Street, E.C.1 : Printers and Projector Duct Work.

Walter Perrin, 59, Lucas Road, S.E.5 : Slate Tanks.

Permutit Co., Ltd., Permutit House, Gunnersbury Avenue, London, W.4 : Water Softener.

Carter and Sons (London), Ltd., Bank Chambers, Wandsworth Road, S.W.8 : Wall and Floor Tiles.

Protheroe and Macnab, Ltd., 72, Lant Street, S.E.1 : Composition Floors.

Ideal Boilers and Radiators, Ltd., National Avenue, Hull : Boilers.

Merryweather and Son, Ltd., Greenwich High Road, S.E.10 : Fire Hydrants.

Independent Sprinklers, Ltd., Sardinia House, Kingsway, W.C.2 : Sprinkler System.

British Ebonite Co., Ltd., Hanwell, W.7 : Ebonite Piping Supplies.

Ross (Barnet Ensign Ross, Ltd.), 3, North Side, Clapham Common, S.W.4 : Projectors.

RCA Photophone, Ltd., 36, Woodstock Grove, Shepherd's Bush, W.12 : Sound Equipment.

Fuller Electrical and Manufacturing Co., Ltd., Fulbourne Road, E.17 : Rotary Converters.

Pulver and Co., Ltd., 55, Berners Street, W.1 : Electrical Installation.

Westinghouse Brake and Signal Co., Ltd., 82, York Way, King's Cross, N.1 : Metal Rectifiers.

British Thomson-Houston, Ltd., Rugby : Light Fittings.

Cinetechnic (Debrie Equipment), 32, Kingston House, S. Ennismore Gardens, S.W.7 : Processing Machines.

W. and T. Avery, Ltd., Avery House, Clerkenwell Gardens, E.C.1 : Weighing Machines.

Metafiltration Co., Ltd., Belgrave Works, Belgrave Road, Hounslow : Filter Plant.

Doulton and Co., Ltd., Doulton House, Albert Embankment, Lambeth, S.E.1 : Acid Vats.

Safety Tread Syndicate, Ltd., Dace Road, E.3 : Staircase Nosings.

John Boldings and Sons, Ltd., Grosvenor Works, Davies Street, W.1 : Sanitary Fittings.

Pathé Equipment, Ltd., 50-54, Beak Street, W.1 : Theatre Chairs and Carpet.

Marryatt and Scott, Ltd., 40, Hatton Garden, E.C.1 : Lifts and Hoists.

Phillips Electrical, Ltd., Century House, Shaftesbury Avenue, W.C.2 : Public Address System.

Telephone Rentals, Ltd., 233, Shaftesbury Avenue, W.C.2 : Internal Telephones.

Moreland Hayne and Co., Ltd., 80, Goswell Road, E.C.1 : Structural Steelwork.

Rapid Floor Co., Ltd., Africa House, Kingsway, W.C.2 : Precast Floors.

Horace W. Cullum and Co., Ltd., 8-9, Flowers Mews, N.19 : Acoustics.

Rye-Arc, Ltd., 24, Leadenhall Street, E.C.3 : Steel Boiler Flue.

London Stone Cleaning and Restoration Co., Ltd., 29, Starcross Street, N.W.1 : Cleaning Stonework.

Haskins, Blackhorse Lane, E.17 : Roller Shutters.

Faulkner Greene and Co., Ltd., 99, Redcross Way, S.E.1 : Covered Way and Glass.

Evans Electroselenium, Ltd., Harlow, Essex : Measuring Instruments.

Electronic Instruments, Ltd., 17, Paradise Road, Richmond : Recording Meters.

Nevelin Electric Co., Ltd., Purley Way, Croydon, Surrey : Rectifiers.

Henry Wiggins and Co., Ltd., Wiggin Street, Birmingham : Inconel Coils.

THE "IDEAL KINEMA" TOO CAN HELP

THE above list of contractors have given their specialist knowledge in making the new Pathé laboratory among the best in the world. But every week companies throughout the film industry in Britain and overseas are wanting to contact the right firm to provide new equipment, repairs, decorations or reconstruction for their businesses.

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WHEN IT'S A QUESTION OF TIME

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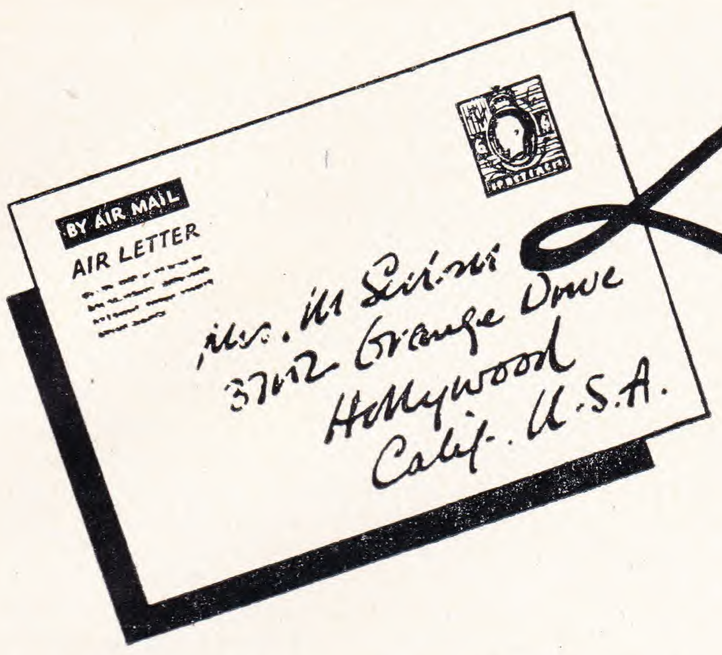


Letter to Hollywood

IT COULD *NEVER* HAPPEN OVER THERE!

JOHN HUSTON, U.S director who has just completed "The African Queen" for Romulus at Worton Hall, writes to an American colleague,

YOU tell me that there is some question as to whether you will do your next picture in England or in the States; there are certain financial advantages to doing it over here, but from things you have heard about the slowness of British crews, union difficulties, lack of facilities, etc., you are somewhat anxious as to whether the cost wouldn't be greater in the long run, and you ask my opinion on this matter.

Before expressing it, let me remind you that picture-making is a highly personal affair, depending as much on harmony between the personalities that go to make up a film unit as on the quality of the equipment and individual abilities.

For example, I was surprised to hear my crew's description of an American predecessor. He was, they informed me, a vicious-tempered bully; he fired people right and left; he used abusive language and, on one occasion, he even threatened to use his fists. If I were to tell you this man's name, you would be as shocked and surprised as I was to hear all this, for we both know him to be a mild-mannered, amiable soul, for whom American crews feel the friendliest regard.

Be Understanding

I shan't attempt to analyse the causes of the state of conflict in which this man worked, or to lay the blame for it upon him or upon those around him; but I feel sure that the picture suffered. It goes without saying that the director suffered and the crew suffered as a result of the picture suffering. And so, . . . my first piece of advice is this: if you do come here to make your picture, exert yourself to be agreeable and understanding.

Their methods over here are somewhat different from ours, but don't take it for granted that, because of that, they are inferior. In many respects we can learn things about picture-making from the English. I never hope to experience greater loyalty than was shown to me by an English crew. They endured real hardships on our African location without a word of complaint, and the idea of laying down on the job or quitting the picture never occurred to one of them. On several occasions, acting on doctor's advice, I had to insist upon individuals stopping work, and the only threat that served was that I would stop shooting if they came on the set.

They worked hard and long, this crew, and they had to do with very little, but what they had they made serve. You have undoubtedly heard that the English are inclined to be set in their methods; that they insist upon doing things as they have done them before. Maybe that's true; maybe the fact that no crew has ever before attempted to make a picture while going down an African river on a raft pursued by great stinging insects, the water full of crocs—maybe that explains the ingenuity and inventiveness they displayed every inch of the way.

Certainly the facilities at Worton Hall aren't to be compared with those at Fox, Warner Bros. or MGM. It's been a little like making pictures in one's backyard. Worton Hall hasn't got a set-dressing department with $6,000,000 worth of antiques; neither has it got a railroad complete with an assortment of vintage trains; nor do its walls enclose the Marseilles waterfront, the mosque at Constantinople and a village in the Caucasus. Nevertheless, I enjoyed making a picture there.

The management of the studio does its best to make up for the above-mentioned little deficiencies by thoughtfulness and effort. I can't say we weren't slowed down by faulty equipment. We were. There was a fire-hose out there that they really ought to consider discarding. In making a rain sequence, it must have busted at least fifty times. Hours were lost while it was being bandaged up. Now, as you know, this couldn't possibly happen in an American studio.

There was something else that couldn't possibly happen. When our time was up at Worton Hall and we still had several days of shooting to complete, they gave us the studio free of cost. See what I mean——?

Another thing you wouldn't find happening in an American studio: one day I saw the manager at Worton Hall mowing the lawn!

Shortage of Labour

There is, of course, a labour problem to be dealt with. Owing to the curtailment of film production in England, grips, gaffers, painters, etc., have been dropping out of the picture business for other, steadier employments, so that there is actually a shortage of labour. This calls for considerable planning of a kind that isn't required in the States.

You should line up your crew well in advance of production; also, you should allow for a generous number of shooting days because, after the date named in their notice falls, their numbers fade away. This is only to be expected, because they are almost all committed to other pictures, and so, to hang on for a few more days, would perhaps cost them weeks, even months, of continuous employment. So be sure and spare yourself the possible embarrassment of having an unfinished picture on your hands.

As you know, I am a strong union man, and am inclined, perhaps through sheer dogmatism, to take their side in most issues. Let me say, however, that were I an arch-capitalist who, as a side-line, ran a huge factory in which children were chained to their machines, I wouldn't have a single kick to make.

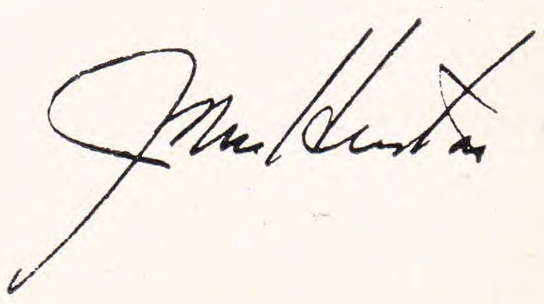
While strong in the service of their members, on no occasion did the unions make any strangling demands. The good of the picture was always a primary consideration with them. They wanted it made, and they wanted it made well and quickly. It was apparent to me that they fully appreciated the fact that, unless that is accomplished, there won't be any labour problems at all—in fact there won't be any film industry.

I have been told that my experience with the labour unions is something quite unique, and that as a rule they are hard and stubborn in their behaviour. One major American studio is even supposed to have shut down because of trouble with the unions. This may all be true—I don't know. All I know about is my own experience.

The "Golden Hours"

Before we leave the subject of unions and labour, here's something that may amuse you: you know how American crews are always anxious to get onto "Golden Hours." Not so with the English. If you want them to do overtime, a union representative is called in and they hold a shop meeting to decide whether to work or not. There are two opinions regarding their reluctance: one is that, as they work from week to week and not from day to day, they may, through putting in a few hours overtime here and there, do themselves out of a whole week's work. The other opinion is that they just don't like doing more than a full day's work, and that money hasn't anything to do with it. Whatever the motive, each time I asked for overtime, it was immediately granted.

I shall be returning to Hollywood soon and if you have any further questions in mind, I'll try to answer them on the spot. I am told that other Americans who have been over here have, while in England, voiced their admiration of English crews, but have told another story entirely on returning home. Believe me, I shan't change my story—I'll only enlarge on it.



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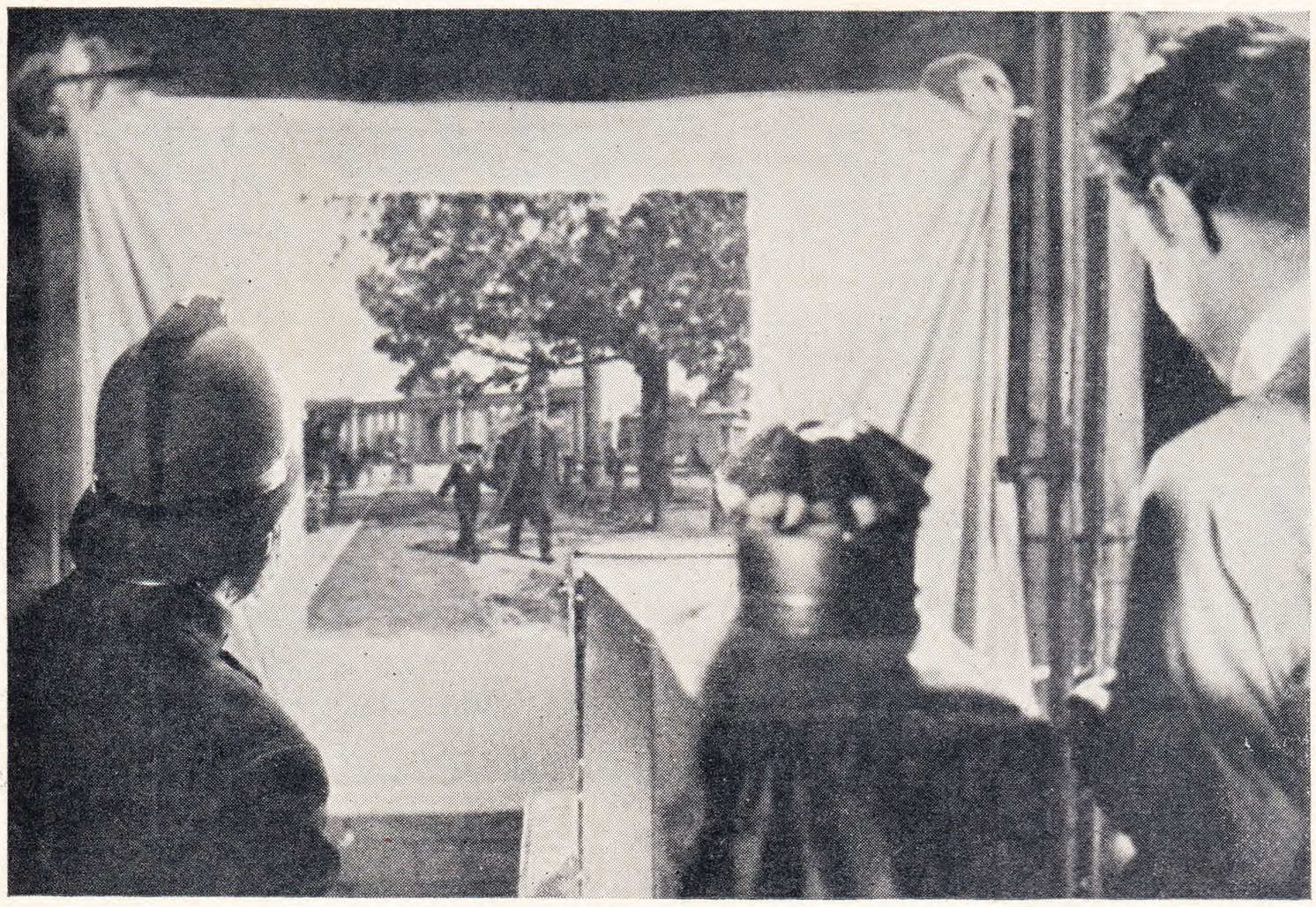


THE BEGINNING OF IT ALL! Scene from THE MAGIC BOX in which the policeman (Laurence Olivier) sees the first moving picture projected by Friese-Greene (Robert Donat)

Crazy Idea That Clicked

By JOHN BOULTING

Director of the film, who describes how he helped to open "The Magic Box"

THE trade Press is too full of compliments. Much too much back-slapping and not nearly enough pants kicking. I have always felt that. And now, here am I invited to write an article in which, if I am to be honest, I am clearly compelled to store the brickbats and hand out the bouquets.

It was in January of last year that I had the crazy idea of an all-industry co-operative film for the 1951 Festival, based upon the magical story of William Friese-Greene. Crazy? Well, so most people thought at that time.

You see, our industry is crammed with people, able, energetic, talented, generous, but above all, individualists. They don't easily co-operate. There has always been a great reservoir or good will and good intentions and a vast ocean of conflicting effort. At least that's how it seemed to me at the beginning of last year.

Today, I think differently, for what was labelled an impossible dream has become a reality, and that reality is firmly founded upon a capacity for co-operation and mutual help within the industry hitherto unsuspected. At any rate, by me.

Some Awkward Moments

Mind you, I am not suggesting that the nine months' period of gestation during which the whole project was being set up financially and structurally hadn't its awkward and depressing moments.

At this point, then, let me spotlight those individuals whose encouragement, constructive advice and practical effort nursed the project into corporate existence. And at the outset let me mention Sidney Bernstein and Mickey Balcon, without whose enthusiasm and knowhow "The Magic Box" could never have been opened. Bernstein was the first important trade leader whom I approached, and I did so because he is identified with both exhibition and production and unaffiliated to any of the major groupings within the trade. Moreover, I knew, too, that he would be absolutely forthright in his opinion, and it would be an opinion worth having. When Sidney, after reading the story, said it was a fine idea and must be carried out, I somehow had a hunch that it would be.

Mickey Balcon quite unselfishly and disinterestedly took the embryo child for his own. He pronounced the project quite impossible and then proceeded to do all the things that were necessary to bring it into being.

Faith and Fervour

The faith of Bernstein and the fervour of Balcon laid flat the walls of Wardour Street. Sir Philip Warter thought twice about the idea and then gave it his blessing, and Robert Clark opened the doors of the Associated British Studios. He did much more than that but that's a long story.

John Davis, meticulous in approach and insistent upon practical detail, stared enigmatically at the project and, once satisfied, made sure that it ran smoothly along the business-like rails for which he has a well-known preference. Sir Arthur Jarratt, bland and unhesitating, immediately perceived its showmanlike possibilities.

Jim Lawrie, of the NFFC, with a puckish relish and surgical thoroughness, cut through several cords that threatened to strangle the child at birth. Sir Henry French, endowed with the authority of his position as director-general of the BFPA, and a judicial calm born of extensive negotiating experience, proved an impeccable guide. In subsidiary, but vital, rôles, Alec Tozer and Denis Wratten of Kodak, Kay Harrison of Technicolor, Monty Berman, Bill Harcourt of Denlabs, and many others all played their parts willingly and wonderfully.

During the many weeks in which the financial and organisational foundations were being laid, I had acquired a new colleague. Immediately the all-industry concept had been accepted and established, my brother Roy generously stood aside so that the creative basis could be made as wide as its financial counterpart; and that is where Ronald Neame stepped in. It was Mickey Balcon's idea and Ronnie, who had worked in the early days of his career with Claude Friese-Greene, eagerly accepted the complex and trying rôle of producer; complex because of the necessity to inform, conciliate, co-ordinate and placate the many individuals and organisations now actively involved in the production, and trying because of the little time afforded to us for an undertaking which demanded the highest possible standard of craftsmanship. Quite apart from that he was working with a director who was also a producer. It was difficult for him at times, but he bore everything very cheerfully and acted with great energy.

Creation and Technique

The creative and technical team that joined us was as distinguished as we had hoped. Eric Ambler cut short a long-planned holiday and started in on the screen-play. Jack Cardiff the "Oscar"-winning cameraman, agreed to take charge of the photographic end. John Bryan, also an "Oscar" winner, came in to design the sets; William Alwyn to write the music; Julia Squire to design the costumes.

We planned to commence shooting on January 1 of this year, and we had roughly three months at our disposal. The short time available for preparation was unavoidable. The film *had* to be shown during September as the last major event of the Festival season.

To those critics who have complained that the film should have been shown at an early date during the summer, I would respectfully point out that "The Magic Box" will have been written, shot and exhibited in less than one year from the date on which the whole project was formally set up from a financial point of view. Or, to make it simpler for them, it will be shown in less than nine months from the first day of shooting. This is fast for a major Technicolor production.

Certainly no words of mine can pay adequate tribute to all those people I have mentioned above, whose energy, enthusiasm and skill enabled us to arrive on schedule and thus keep our word to the industry.

Casting should have been a headache, but wasn't. Once Laurence Olivier had generously endorsed the idea of a Festival film and immediately agreed to play a small part, without even knowing just what the part would be, it was a walkover.

Inevitable Star

Robert Donat was an inevitable choice for the principal part of William Friese-Greene. He was anxious to play it and we were glad to have him. It was fascinating to watch him at work during the pre-shooting period. He read everything that could be read on the subject and talked to everybody who had ever known, vaguely or otherwise, the character he was to create on the screen. The most minute detail of character, habit and dress would be conscientiously recorded in notes written into the margin of his script.

The casting of Friese-Greene's two wives, both vitally important rôles was not quite so easy. The first wife was Swiss, and we finally resolved upon Maria Schell to play the part. Maria is a brilliant young Swiss actress and had made a brief but distinguished appearance in one British film. Margaret Johnston, was our eventual selection for the second wife, Edith.

It is impossible to present a clear picture of all that happened in the three months prior to the commencement of shooting for, at the

Continued on page 6

OF COURSE WE CAN MAKE MUSICALS

By LOUIS LEVY

BRITISH musicals, impossible! How often have we heard that comment in recent years, made very often by people in this country who should know better? I believe Britain can make successful musicals, but we are suffering from an inferiority complex. However, I cannot deny that there are several obstacles to be overcome, not the least of these being the comparatively high production costs of musicals compared with straight drama or comedy.

Let me make it clear from the start that I am discussing the popular musical, not the type of film that emphasises its background themes and gives a special place to the potted concerto. We have done well in this country with that type of musical; but how often have we made a picture to compare with the Betty Grable, Fred Astaire and Gene Kelly shows?

Some people will try to tell you that the back-stage musical has had its day, that we must be more original. I believe just this: If something pleases the public, the public will continue to enjoy it, and the public will continue to enjoy the back-stage musical for many years to come.

Inferiority Complex

British film makers are capable of making some types of films which are examples to every other film-producing country—the great art films: the pieces which catch the English atmosphere to perfection and sweep us along by their sheer entertainment value; but when it comes to musicals we are met with this astounding inferiority complex on the part of production executives and many senior technicians.

Yet there is no justification for it, because with few exceptions, every time we have made a musical in Britain it has been a success.

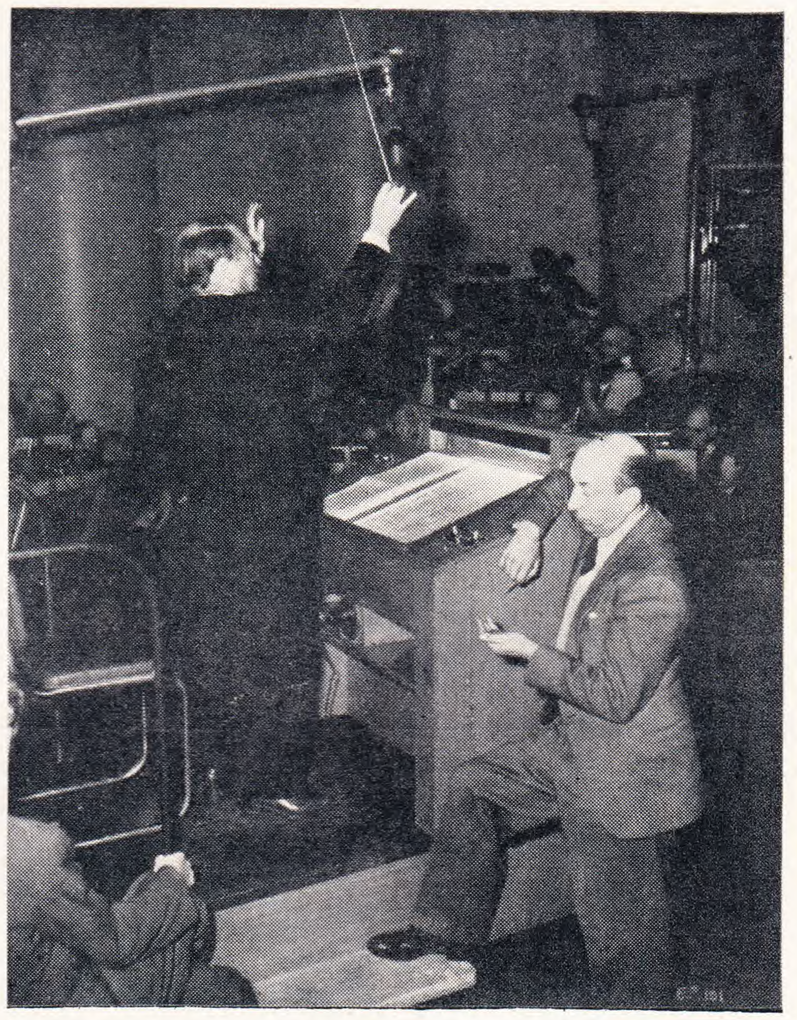
Forgive me if what I say now sounds egotistical. Since the early days of the talkies I have been connected with musicals. At Gainsborough in the early thirties we made such films as "Sunshine Susie" (with Jack Hulbert and Renate Muller, released 1931), "Jack's the Boy" (again with Jack Hulbert, this time accompanied by Cicely Courtneidge, released 1932), "Tell Me Tonight" (with Jan Kiepura and Sonnie Hale, released 1932), "My Song for You" (with the same two stars, released two years later), "Evergreen" (Jessie Matthews' big success, with Sonnie Hale and Betty Balfour in the cast, released 1934), and Jessie Matthews in "First a Girl" a year later, and many more.

They set an example: and America was quick to learn the perennial value of the big-scale musical. And America is still cashing in on them.

We were making musicals which went all over the world. But then, in 1937-8, British production generally suffered its first major economic crisis. The cost of production became the ruling factor in film making. We lost ground. Then came the war and the physical operation of studios made the production of musicals prohibitive.

But let us never forget that not so long ago we could hold our own in the production of musicals—and even the twist that some modern musicals have taken, such as the well-deserved build-up to a star like Mario Lanza, is not new. The Jan Kiepura films were doing just the same thing for Britain.

Some people put on a dismal expression when you talk about British musicals and whisper under their breath: "What about



The writer of this article, who is musical director for the Associated British Picture Corporation Studios at Elstree, is seen conducting a score of Mischa Spoliansky (right).

'London Town'?" Well, what about it? It was a disappointment, but Hollywood can't guarantee in advance that every musical it produces will be a great success. Neither can we.

Recently we have been more successful in the production of "Happy Go Lovely," at least, we hope the results of its general release will justify our optimism that we have made a good popular musical. Now this raises our first problem. Already a few people have complained, not that "Happy Go Lovely" is a bad film (everyone has a right to such opinion), but they have complained that we in Britain produced the film both with a number of American artists and technicians and by entering a financial agreement with an American company.

If such arrangements had not been made, I doubt if "Happy Go Lovely" would have been made.

But it is all eyewash to talk about the use of foreign artists as though there was something immoral about it. Do the Americans object to the use of such foreigners as Alfred Hitchcock, Stewart Granger, Jean Simmons, Charles Laughton, and many others in their pictures? Of course not.

You cannot make successful pictures without talent, and I claim that any producing country has the moral right to buy talent from anywhere in the world if it wishes to do so.

I am not discussing whether or not Britain has adequate talent for making films other than popular musicals. But I do know that we have insufficient talent for this kind of subject. We suffer from the ill-fate of the vaudeville business in the British Isles. Its economic crisis came in 1930, immediately following the coming of the talkies, and vaudeville has never properly recovered. George Black did much to bring it back to popularity. But artists who could have been valuable to the film studios disappeared and no new British school has followed them.

As a result we must be prepared to seek out talent from any country in the world.

Great showmen of recent years have revived the vaudeville business in the same way—C. B. Cochran went to France for his star in "Bless the Bride" (Georges Guetary); Val Parnell decided he could only fill the Palladium by bringing over the top-line American artists, and, similarly, the most successful musical shows in recent years have been your "Annies" and "Oklahomas."

I know by experience of the grumbles from British composers and lyric writers. Every day my post brings me a pile of British songs from publishers. British song writers can write hits: but they have little chance to do so. It is a vicious circle. But when British studios have confidence again in making musicals and, at the same time, British vaudeville is supplying top-line talent, then, and only then, can we expect British song writers to come back into their own.

Production Cost

The real difficulty in making a programme of musicals is the production cost. When you make a musical you are, in fact, paying for the production of two forms of entertainment at once—the normal costs of film-making, plus the heavy overheads of contracting singers and chorus and rehearsing for several weeks a complete stage show. If the film is to be top quality you can budget about £150,000 on the musical side alone.

The cost of a good score for a popular musical is more than six times the cost of a score for background music to a straight drama or comedy.

When the film reaches the actual shooting stage there are possibilities for economy. It should not take so many set-ups to shoot a musical sequence as it does a complicated dramatic or comedy sequence. My own view is that for most musical numbers the overall effect is better when the camera does not jump about first from this angle and then from that.

The fantasy of a musical, its glamour, its glare, are heightened by the use of colour and diminished when it is shot in monochrome. Colour is essential—and expensive.

So we are faced with these substantial production costs, on the face of it a good reason why Britain should steer clear of musicals.

It may be argued that we should compromise and make films of a pattern similar to the pre-war Gracie Fields and George Formby subjects. I call these opportunist pictures. There is one recently completed which stars Donald Peers. There is a good market for them—at the right time. Let's make them by all means, when the occasion arises. But they cannot be accepted as part of an established production programme. Generally, I doubt if there is a sound market for a film which pads out a few solo song situations, except, perhaps, Gracie Fields.

I think we can bring back the British musical by co-operative production with America, which can offer us financial investment, distribution facilities and, in many cases, talent which we lack over here.

We should stop being frightened of making musicals. Film people are not usually lacking in self-assurance. For my part I am convinced that the backstage musical, as we call it, will continue to remain a box-office favourite for many years to come. It is part of public life, or rather, the public's escape from real life, and the British industry should no longer leave this, the missing link, in its production programmes.

Three's Company Adds Up

says JOHN GRIERSON, Production Chief of Southall's Group 3

THE big thing at Southall is to get film production on a continuous basis with all the resultant advantages in efficiency and morale. No one, of course, can at this date guarantee the future, but for this first year we seem to be well on our way.

The second point is that we are keeping overheads low and throwing all artificial and adventitious charges out of our budgets.

The third point—and it has taken some little time to strike the proper balance—is that, while we are set up to look after the younger talents, the actual running is in experienced hands.

Naturally, the pictures alone will tell.

We are well ahead with three pictures—two of which you will see shortly.

Thereafter we go into "What Say They," a James Bridie play, which was done at Malvern. It is a Scots university comedy with a notable shortage of academic atmosphere and, of course—from Bridie—some of the fastest and best dialogue in a generation.

Here we celebrate the more honourable forces of disorder, with the university porter finishing up Lord Rector and the sobersides on their backsides. Larger meanings will, I have no doubt, be read into it, for, comedy as it is, it was based originally on the Biblical story of Esther.

Our fifth, all going well, is a mining story based on, though not directly following, the big disaster a year past in December at Knockshinnoch. We call it, for the present, "What God Forgot." It was a terrific story in the fact, and the script, from Montagu Slater, is one of the most moving I have read for years.

Phil Leacock, who recently did "Out of True," is down for direction. It is, of course, a very difficult subject, but, crossing fingers, we may strike something of that inner heroic fibre in the face of a common disaster which people associate with the days of the blitz.

The first film we made, John Baxter's "Judgment Deferred," had Joan Collins, a fresh young face in films, whom Ealing has taken over

I will add that John Baxter doesn't forget, even in a medium-sized studio on a modest budget, how to establish the big scene and throw in Bud Flanagan and Edmundo Ros for good measure.

"Brandy for the Parson," the second, is about smuggling in this high noon of Customs efficiency, nicely lighthearted about regulations and such, and with James Donald, Kenneth More, Jean Lodge and the downs of Dorset to help out. I hope it will be in the Jerome K. Jerome tradition. The director is John Eldridge.

The third picture is "Nothing to Lose," and I hope it goes still further into the gentle nose-thumbing business. I think it could be as good as "The Well Digger's Daughter," and it would be privilege indeed if it arrived at being mentioned in the same breath as "The Baker's Wife."

It is based on the simple, but I hope civilised, idea that maybe someone somewhere shouldn't work as hard as they keep on telling us to do.

Production is under Herbert Mason, and the cast includes Hermione Baddeley, Raymond Lovell, Dora Bryan, Thora Hird, and the television star, Jane Barrett.

CRAZY IDEA THAT CLICKED—Contd.

time, nothing indeed seemed very clear. We were all a little alarmed at the responsibility which now rested squarely upon our shoulders and overwhelmed by the avalanche of things that had to be attended to. As the screenplay was being written, so sets were being designed and even built, the principal artists being tested, the costumes being made, artists' commitments being sorted out, budgets prepared and schedules submitted, hair-styles decided upon, Robert's changes of make-up experimented with, technicians employed, studio facilities analysed and adjusted and a hundred and one other things which overlapped and interwove and ultimately came together.

The shooting of "The Magic Box" was, for me at any rate, a rest cure after the frenzy of the previous three months. But for others it was the opposite. For Ronnie Neame, the producer; John Bryan and his art department staff who had to supply the production with over 70 sets; for John Redway, who was handling the problems of a cast list which included over 60 star and feature players; and Cliff Owen, a first assistant with superlative qualities of patience, tact and understanding—the battle was really on. The fact that they emerged at the end of the shooting period fairly unruffled and reasonably sweet-tempered is an indication of their powers of endurance and their love of the job.

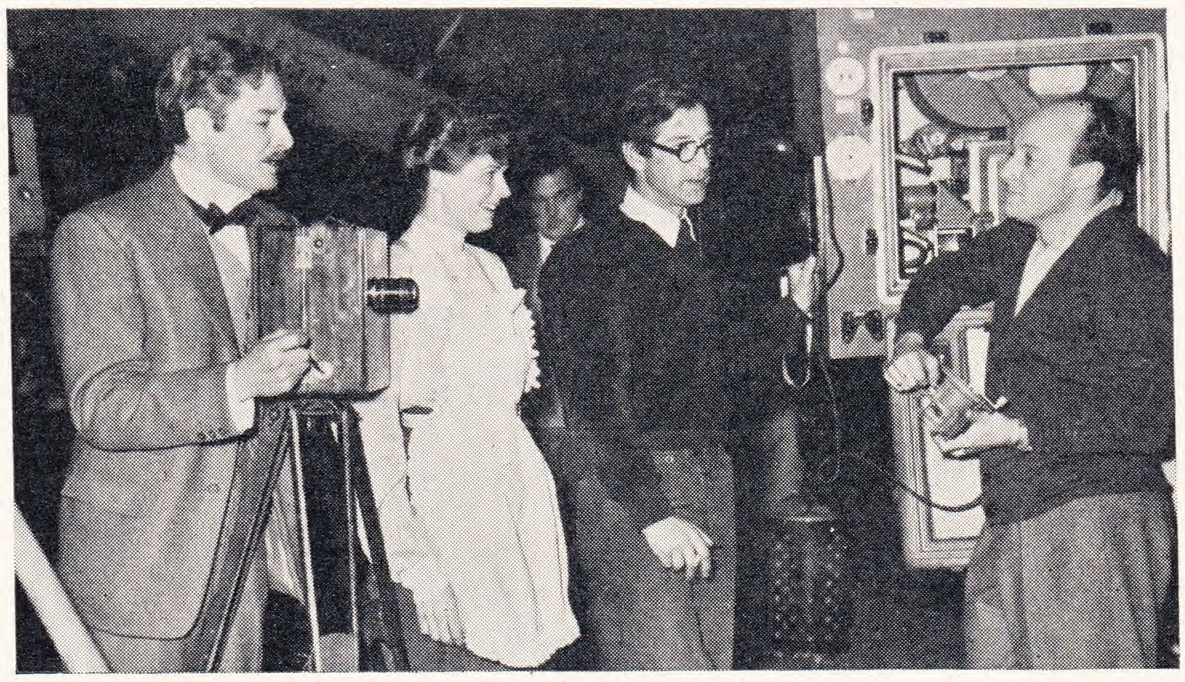
For me this phase was particularly revealing. I had a cast studded with stars and yet the film had no "stars" at all. We were singularly free of temperament and display and everybody seemed anxious to vie with each other in being helpful and gracious.

With shooting completed, Dickie Best, an editor who had worked with Roy and me on many occasions in the past, loomed large in the proceedings. No editor has ever manifest such devotion to a film. We quarrelled madly every time I wanted to cut something out, and I have to confess that he proved me wrong on several important occasions. He and his staff were grand colleagues and their selfless efforts are not easily to be forgotten.

William Alwyn and Muir Mathieson met the musical needs of the film with imagination and exceptional speed, and now, with it all skilfully dubbed by Len Chilton, "The Magic Box" has had its première.

For the film itself I make no claims. It is there for others to judge. I have endeavoured here only to indicate the unique spirit and effort that underlay its achievement. If the first person singular has appeared too frequently, it must be forgiven because this is the story of a personal experience which I would not have cared to miss. In a way the film itself is of secondary importance. The significance of this project lies in its purpose and method. To all those who were my colleagues in it, no matter in what capacity, I bow in salutation and gratitude.

Incidentally, one final word of thanks, and this time to the KINE. and its technical Editor, R. Howard Cricks, who not only gave the idea their blessing, but helped us on technical matters and in many other ways. Yes, a large bouquet for the KINE., too.



Ancient and modern meet. Robert Donat (cranking a replica of Friese-Greene's first moving camera) and his co-star, Margaret Johnson, compare points with director John Boulting and lighting cameraman Jack Cardiff, who is seen using the Technicolor camera as an arm-rest

IN FOCUS

By Slide Rule to Infinity

SKEETS KELLY, MBKS, cameraman at MGM-British studios, has developed a valuable calculator which answers all the cameraman's questions as to focus, aperture, filter factors, and other points. Originally devised by W. B. Pollard, BA, MBKS, it consists of a double-sided circular slide rule, $4\frac{3}{4}$ in. in diameter.

One side of the calculator provides information as to hyperfocal distance and depth of field. An arrow corresponding to the lens in use is placed opposite either the infinity mark or the distance to which the lens is focused, when the depth of field is immediately read off.

On the reverse side the centre of the scale is occupied by a number of circles giving equivalent film lengths in feet and metres for 35-mm. and 16-mm. Outside this are three scales which relate camera speeds, shutter angles and filter factors with *f* and *T* values of lenses. Next is a scale enabling exposure to be matched for different key brightness levels. The outside scale indicates the field of view embraced by various lenses at all distances from 1 ft. to 500 ft.

The calculator is obtainable from the secretary of the British Society of Cinematographers, 59, Sloane Street, S.W.1, price 25s., including explanatory leaflet. A 16-mm. version is obtainable from R. G. Lewis.

POINTS ON PYRAL MAGNETIC FILM

F. V. ROYCE, who until last November was accountant at the Warner Studios, Teddington, has become managing director of Zonal Film Facilities, Ltd., a company which owns sole distribution rights for Pyral magnetic recording film, which has been highly spoken of in both broadcasting and motion picture fields.

Pyral is a perforated magnetic film on safety base, with international standard sprocket holes, for synchronous recording, available in 35-mm., 17.5-mm (35-mm. cut down the middle), two types of 16-mm. (single and double perforations) and 8-mm. (16-mm. cut down the middle).

Advantages claimed for Pyral are its robust structure, no need for dark room and no developing, while in quality it scores by there being no ground noise, no clipping or noise - reduction - modulation, and the fact that an immediate recording check is available.

With regard to cost, unsuitable takes can be wiped off and expense in photographic raw stock is limited to approved takes.

Thorn Lighting Division

The lighting division of Thorn Electrical Industries has moved to new offices at 233, Shaftesbury Avenue, W.C.2. Tel.: Temple Bar 1599.

Later in the year a showroom will be opened there.

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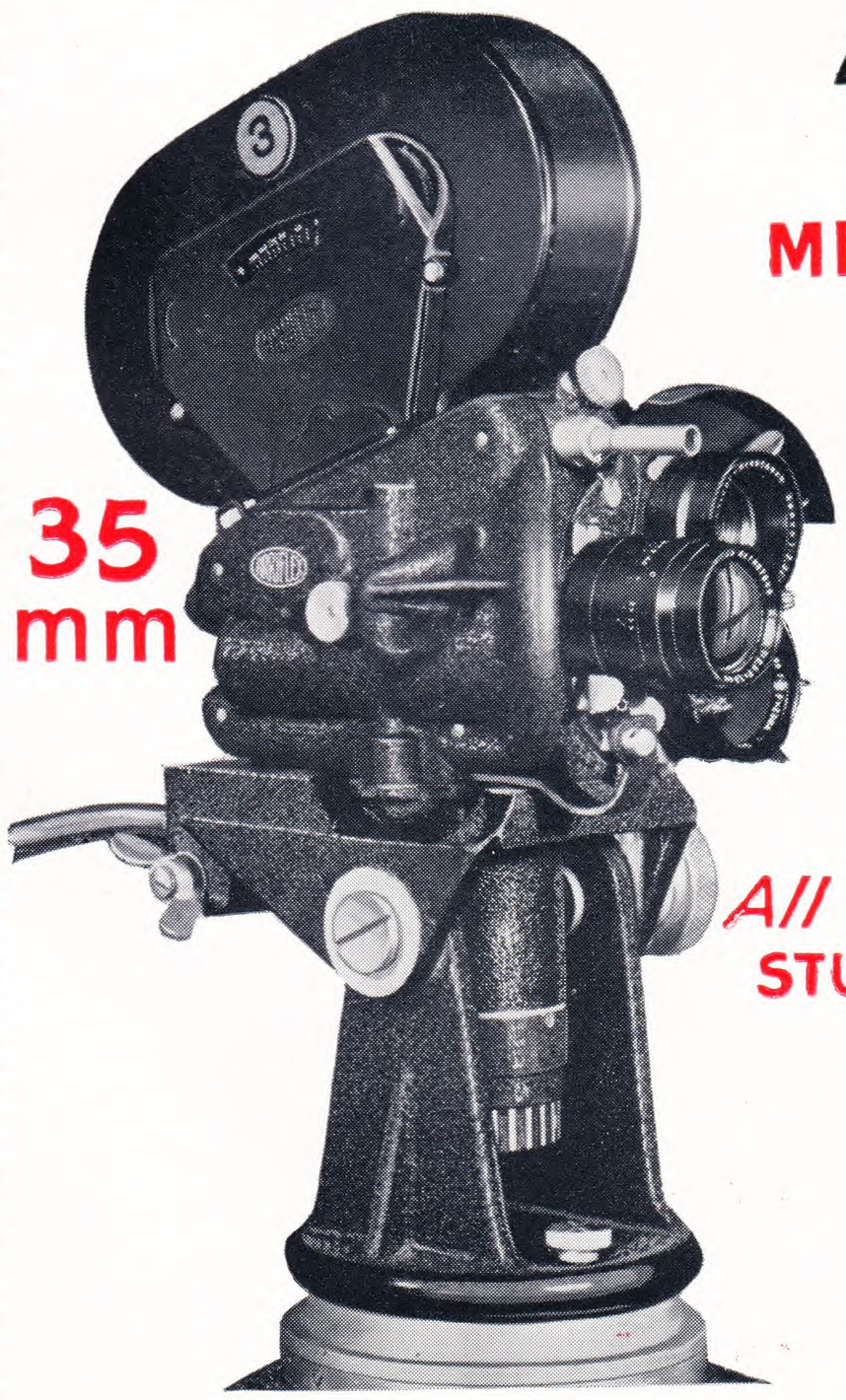

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TRUCOLOR: Soft Hues, Needle Sharp

By R. HOWARD CRICKS, FBKS, FRPS

THE first picture in the new three-colour Trucolor process has just been trade shown, Republic's "Honeychile."

Any expectations I might have had of seeing a process still in its experimental stages immediately vanished. Every colour in the spectrum was produced pleasingly, and. on the whole, I would say, accurately, except that in the case of highly saturated colours some loss of saturation occurred. Flesh tones were especially good, and grass and trees were green (and not, as is so often the case, brown), even though the green was at times bluish.

Little information is so far available in this country concerning the process. Information received from America indicates, however, that the system makes use of Eastman Colour Negative and the newly perfected Dupont 275 positive stock.

Automatic Masking

Eastman Colour Negative—which has so far been seen only experimentally in this country—is a film of the integral tripack type, and embodies automatic colour masking. That is to say, that, in processing, the inherent deficiencies of the tri-colour dyes are compensated for by the production of a supplementary dye. This has to compensate for the unwanted yellow transmission of the magenta and the unwanted red transmission of the cyan, and is therefore orange in colour.

The Eastman film produces, of course, an image which is negative not only in tonal values, but in the sense that all colours are represented by their complementaries. The next step in the Trucolor process must, therefore, be the production of separation positives from which separation negatives are made. This step would, in any case, be necessary for printing Dupont stock from a tripack negative, because the colour sensitivity of the three layers of the Dupont film bears no relation to the usual combination of sensitivity and image colour.

Dupont 275 stock is a unique material, in that, instead of gelatine, it employs a polymerised synthetic material as a medium for the colour-forming compounds. This fact should, in theory, provide a reason for the sharpness of Trucolor pictures, for reasons which will be explained later. Full details of the new stock were published in the November, 1950, issue of the SMPTE JOURNAL.

A problem which delayed the perfecting of the integral tripack principle was that colour degradation occurred, by reason of the tendency of the couplers to migrate from layer to layer. The principle of employing synthetically produced over-size molecules to prevent this migration is already well known. The synthetic material, which now replaces gelatine, is derived from polyvinyl alcohol, and the large molecules effectively inhibit transfer of the couplers.

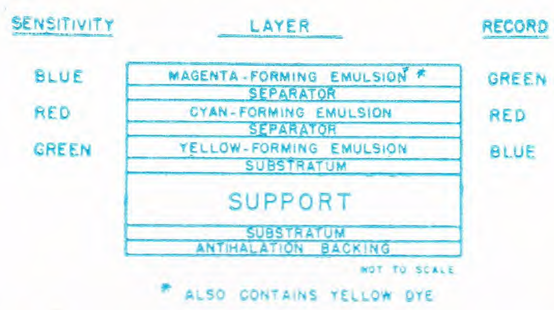
Another advantage of the new material which should contribute towards the sharpness of image is connected with the mechanism of colour development. When a silver halide grain is reduced by the developer, oxidation products react with the coupler in the emulsion to form a dye, the quantity of which is strictly proportional to the amount of silver formed. However, it may be in the normal gelatine emulsion that there are no coupler molecules in the immediate vicinity of the developed silver grain with which the oxidised developer can react, and, as a result, the dye deposits may consist not of a speck of the actual size of the grain, but of a diffuse cloud surrounding the grain.

On the other hand, the polymer which replaces the gelatine contains an abundance of colour coupler nuclei as parts of its chemical structure, and the oxidation products can be assured of always finding molecules with which to react, without seeking them, and diffusing in the process.

Because the new stock is intended solely for a printing film, it is immaterial whether its colour sensitivity corresponds with that of the negative. In point of fact, it is for convenience made with totally different sensitivities, as shown in the figures reproduced from the above-mentioned paper.

The top emulsion layer, which is blue-sensitive, is printed from the green record and provides the magenta component; the yellow dye in this layer acts as a filter for the lower layers in the usual manner. The middle emulsion layer, which is red-sensitive, is printed from the red record and provides the cyan component. The underneath layer is sensitive to green, is printed from the blue record, and provides the yellow component. The respective layers are printed through narrow-cut blue, red and green filters, obviously from uncoloured separation negatives.

A practical advantage claimed for the new stock is that its synthetic emulsion carrier is less liable to abrasion, so that it should be less subject to damage in projection. I have little doubt that audiences will appreciate its soft, pleasant colours and its needle-point sharpness of image.



Structure of Dupont type 275 colour film, release positive

Colour reproduction with Dupont type 275; B=blue, C=cyan, G=green, M=magenta, N=neutral, R=red, W=white, Y=yellow

HIGHLIGHTS AT HAND HEAT

THE past two years have seen the development by Mole-Richardson (England), Ltd., of arc lamps which have so commended themselves to foreign buyers that contracts are in hand for overseas studios, the managements of which are pressing for early delivery.

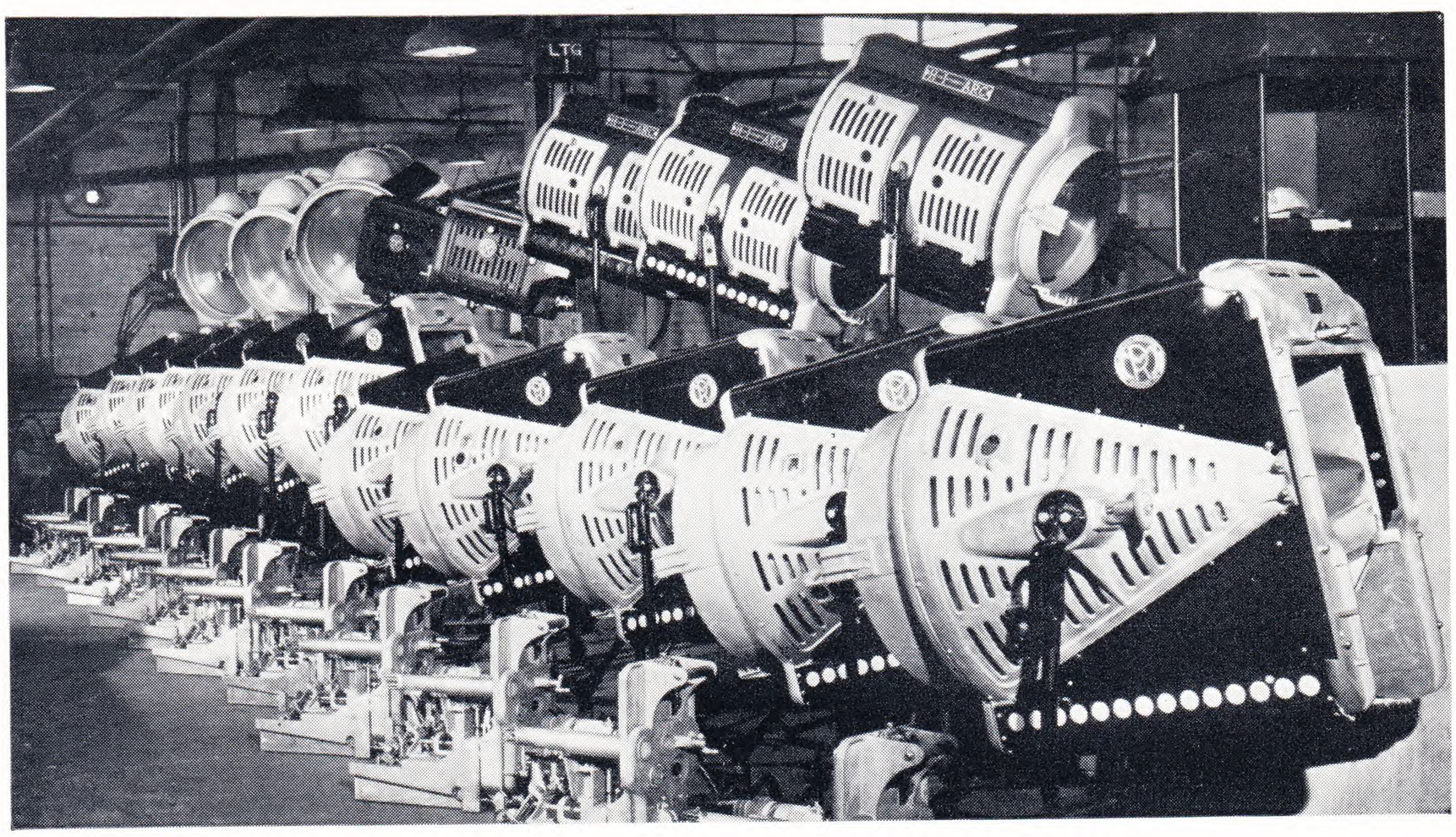
Important among these is Type 2170, a new design which a KINE. representative saw on test during a visit to the Mole-Richardson workshops in Chase Road, London, N.W.10. The difference in temperature between the 2170 and earlier models was remarkable, it being possible to rest the hand on the 2170, while on the others a quick withdrawal is necessary.

The 2170 is a development of the lamp known originally as the 170, from which, by two important stages, has been developed a lamp housing of convenient tapered shape at the rear which allows more room for operators on the overhead gantries and is cool to handle.

The mechanism of the lamp is pivoted in the housing in a manner which allows it to swing backward for alteration or for removal, another feature which will be widely approved.

Last month a large consignment of Mole-Richardson lamps was dispatched to the important Cinecitta studios in Rome, part of the contract for 180 lamps which have to be supplied. The contract is for 80 2170 lamps, 39 type 90, 21 type 65, 30 type 40 Duarcs, and 10 Mark II Brutes, in addition to other studio apparatus.

Mole-Richardson has also in hand a contract for 24 lamps, including Type 2170s, for India Minerva Movietone Studios, having contracted with the company for a quantity of studio material.



A battery of the type 2170 Mole-Richardson lamps that have gone to Italy

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DANGER AND SAFETY HAND-IN-HAND

How Fire and Destruction Were Controlled for "Ivanhoe"

THRILLS and action, not to mention the pleasurable anticipation of a torture scene. will ensure the popular appeal of "Ivanhoe," which has now been completed at MGM studios, Elstree. Since even stunt men like to escape serious injury, and stars cannot be subjected to any undue risk, many of the sequences in the film have thrown heavy responsibility upon special effects expert Tommy Howard, FBKS, FRPS.

A KINE. representative visited the studios during shooting and watched one of the most exciting of the sequences being shot. The story of the sequence is as follows :

While the exterior of the castle (a magnificent reproduction, designed by Alfred Junge, FBKS, and erected away on the lot), is being beseiged by an army of bowmen, Isaac the Jew, Cedric the Saxon, and Wamba the Jester (played respectively by Felix Aylmer, Finlay Currie, and Emlyn Williams), are prisoners in the dungeons. Ivanhoe (Robert Taylor) rescues them.

In the fight a vat of oil is overturned and is ignited by the flames of the torturers' fire. A river of flame runs across the floor. The fire is aided by the prisoners piling combustible material upon it. Wamba makes his escape actually through the flames; Ivanhoe is prevented from joining him by the collapse of the blazing roof. Isaac throws a lighted lamp at one of the Normans. who bursts into flame. The floor collapses as the Saxons make good their escape.

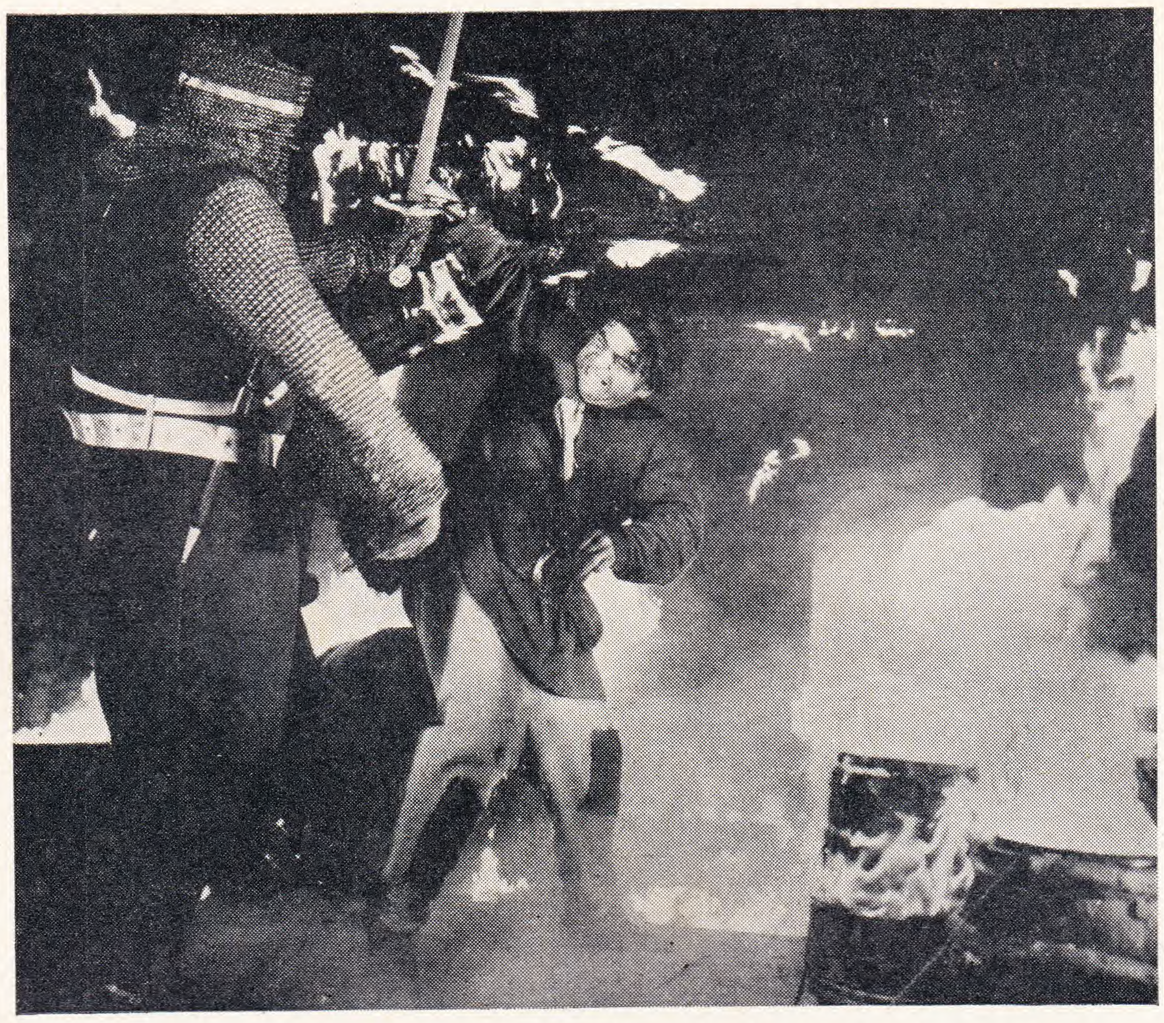
Most exciting part of the sequence was in the dungeon corridor. After the scene was in the can, the flames were started up again, and the actors resumed their positions for stills, one of which is reproduced.

It was not until Emlyn Williams had reappeared from the dungeon that Tommy Howard was congratulated upon achieving such a shot without killing anybody! That injury was avoided was due to his very careful pre-planning.

Uncontrolled Flame

Some of the fire sequences were shot inside the studio, but the scene just described was shot on a stage erected on the lot on scaffolding (to permit of the various piping); while controlled flames from gas jets can be used inside the studio, safety demands that a scene in which uncontrolled flame is used. as when the oil vat was upset into the fire, should be shot without risk to the building. The studio firemen closely supervised proceedings, with their hoses ready connected in case of accidents.

For the flames, two 500-gallon tanks of gasoline and crude oil were installed, from which, under pressure, the oil was piped to the various points from which flame and smoke would issue. Each pipe line had a gas pilot jet to ignite the stream of oil, and a buzzer system was installed at each fire point, so that the gasoline operator would not turn on the supply until he was assured that the pilot jets were alight.



Francis de Wolf and Emlyn Williams in the flaming dungeon

The roof, which was required to collapse. was actually built of heavy timbers and plaster, which had been previously fired. They were shored in position by a number of fixings, released by a single press-button, which was operated by Tommy Howard himself; had he pressed the button a moment too soon, Emlyn Williams would have been caught beneath these timbers and would certainly have received serious injuries.

Immediately before shooting, the timbers were painted with a solution of rubber, petroleum jelly and natural gasoline, and large lycopodium flares were fixed where they would be ignited by the jets. The effect was to produce an inferno of flame, through which it seemed impossible that Emlyn Williams should have escaped.

The set of the upper corridor, the floor of which collapses, was built in the studio. It was here that Felix Aylmer threw a lighted lamp and set a soldier on fire. The fire was perfectly genuine. A stunt man wore an asbestos suit and a costume soaked in gasoline; in his pocket was an electric battery connected to a strip of guncotton, and as the lamp hit him he pressed the button and literally set himself alight.

A bath of water was at hand in which he extinguished the flames. He complained of nothing more than slight discomfort.

The actors did not escape from these encounters unscathed. Robert Taylor actually had his eyebrows burn off as the vat of oil burst into flame.

Bibliography on Agfacolor

Alexis N. Vorontzoff has recently completed a useful bibliography on the Agfacolor process, which contains hundreds of references to sources which, in recent years, have dealt with various technical aspects in the development of this process.

Copies of his work, in typewritten form, can be obtained from Rue-Mademoiselle 10, Paris, price 3s. 4d., 50 USA cents or 175 French francs.

GB-Kalee Now Offers Arriflex

THE first hand camera to be fitted with a reflex-type shutter was the Arriflex, made by the German firm of Arnold Richter. The British agency for both 35-mm. and 16-mm. models has been acquired by GB-Kalee, and the former is available from stock.

It is probably the smallest and most convenient hand camera ever made. the 35-mm. model weighing only just over 10 lb. The housing is very conveniently shaped for holding; the vertical housing containing the motor forms an excellent grip for the left hand, the motor switch within reach of the forefinger, while the right hand is provided with a grip in such a position that the fingers are correctly placed for adjusting the lens focus.

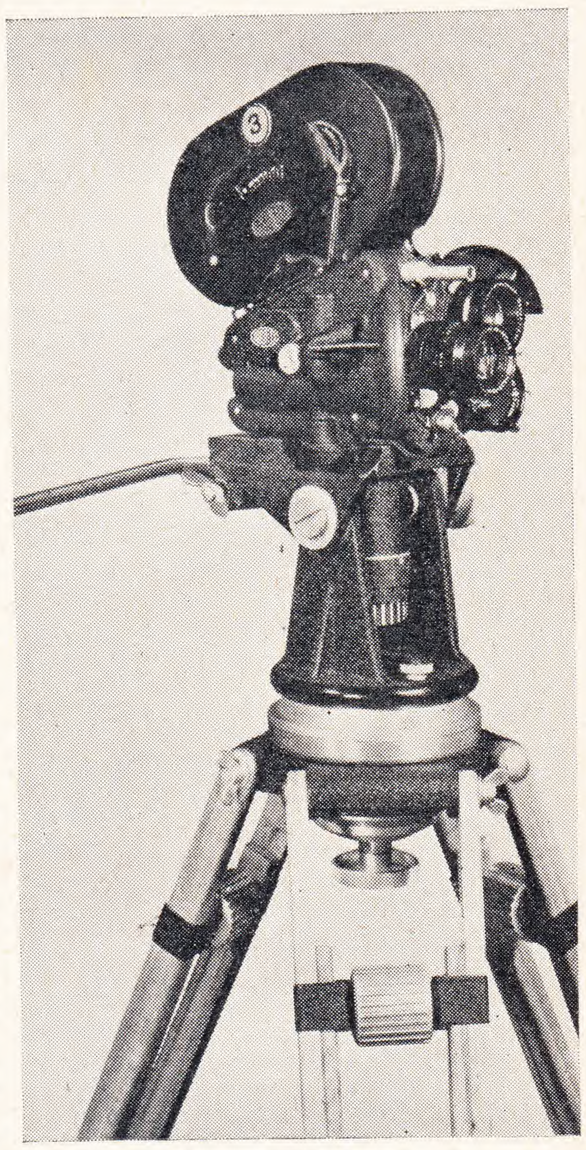
The motor is supplied by a 15-volt accumulator, carried in a case with a shoulder strap. Running speed is adjustable by a ring at the base of the housing. The mirrored shutter provides a sharp, brightly lit, erect image through the viewfinder—even with the lens stopped down the image is clear enough for focusing. Flicker while viewing is eliminated by the expedient of a black bar across the face of the shutter.

The three-lens turret is capable of carrying lenses ranging from 28-mm. to 125-mm. Lenses fit in a bayonet mount, and a point of interest to workers in both 35-mm. and 16-mm. is that the lens mounts are interchangeable with those of the 16-mm. camera, so that the lenses for the 35-mm. camera can be used as long-focus lenses for the 16-mm. camera. A matte box has provision for 3-in. square filters.

The mechanism is exceedingly simple, containing the minimum of gears. The intermittent motion is a simple crank-operated claw. Film scratching is rendered improbable by the fact that the side of the gate upon which the emulsion bears is of hard-wood. The tachometer reads up to 40 frames per second.

Magazines carrying 200 ft. or 400 ft. are supplied. The take-up drive is by means of a coarse-pitch gear engaging with a gear in the camera. A roller bearing upon the film operates the footage indicator.

The Arriflex is specially adapted for hand use, but a tripod is, of course, essential, and a particularly sturdy one is included in the outfit. A ball-and-socket fitting carries a "top-hat" which is necessary to provide clearance for the camera motor. The combination makes it possible to shoot vertically downwards, while the movement of the camera in any direction is very smooth. The tripod legs have quick-grip adjustments.



The Arriflex hand camera

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How Magnetic Recording Grew

TOLD IN PAPERS AT RADIO CONVENTION

RECENT advances in magnetic recording technique, and in its application in the film studio, were the subject of papers by Dr. O. K. Kolb, FBKS, of British Acoustic, and Norman Leevers, B.Sc, FBKS, presented to the Radio Convention, arranged by the British Institution of Radio Engineers.

Dr. Kolb first described the invention of magnetic recording, which originated with an experiment by V. Poulsen, in 1898, when he wrote letters upon an iron plate with a magnet, and later found that iron filings adhered only to those parts of the plate across which he had moved the magnet. Poulsen developed the wire recorder, and in 1928 the oxide-coated plastic tape was introduced in Germany.

Big Step Forward

The outstanding advance in magnetic recording was, however, the discovery by Braunmühl and Weber (the former is now with British Acoustic) of the principle of supersonic bias. By means of hysteresis curves Dr. Kolb explained the need for bias. DC bias, as at first used, provides a small amplitude range because only a small part of the characteristic can be used without distortion. These difficulties were overcome with AC bias, which materially reduces background noise.

There has been much speculation as to the manner of operation of supersonic bias. A theory until recently accepted was that the recording medium was demagnetised by the supersonic frequency, but a later explanation likens the effect to the class B push-pull operation of valves; physically, it is suggested that the particles of the coating are individually magnetised and become minute magnets which combine to form the comparatively larger audio-frequency magnets. Yet another explanation is that the curvature of the B-H curve is matched by harmonics of the third and fifth order of the bias.

Erasing Signals

The most effective way of erasing signals is, continued Dr. Kolb, by the use of an alternating current from the mains. In this apparatus the reel of magnetic film is subjected to a rotary movement in a magnetic field; all the particles are thus exposed to a strong alternating magnetic field and are gradually moved to parts of the field of decreasing strength, so that they leave the field in a completely demagnetised state. Signals may be erased to the extent of 80 db., as compared with 70 db. on a normal erasing head. It is found that the remaining traces of signal are confined to the frequency of the supersonic bias. This fact demonstrates that it is perfectly feasible to record ultrasonic frequencies on magnetic film.

Dr. Kolb's paper was followed by a paper by Norman Leevers on the use of tape recording in film production.

The main problem in the use of tape was to maintain synchronism with the picture film. There were, he said, two main causes of speed drift: tape stretch, and slippage at the capstan. The speaker explained how slippage had been reduced to 40 per cent. by running the coated side of the tape in contact not with the capstan, but with the rubber-covered pressure roller.

Nevertheless, the degree of synchronism attained is not adequate for feature production. The practical advantages of tape over perforated film—its one-tenth weight and one-tenth cost, the avoidance of flutter due to the lack of perforations—led to research being undertaken on methods of synchronising tape and film.

The method of synchronising eventually adopted was by means of a pulse-modulated high frequency, recorded on the tape alongside the sound. The frequency adopted is 14 Kc/s, which is pulsed at either 24 or 48 c/s, by means of a cam-actuated contact on the camera; provided the latter maintains a steady speed of 24 frames per second, in order to ensure correct pitch of sound, the camera may be driven by any means.

Synchronisation

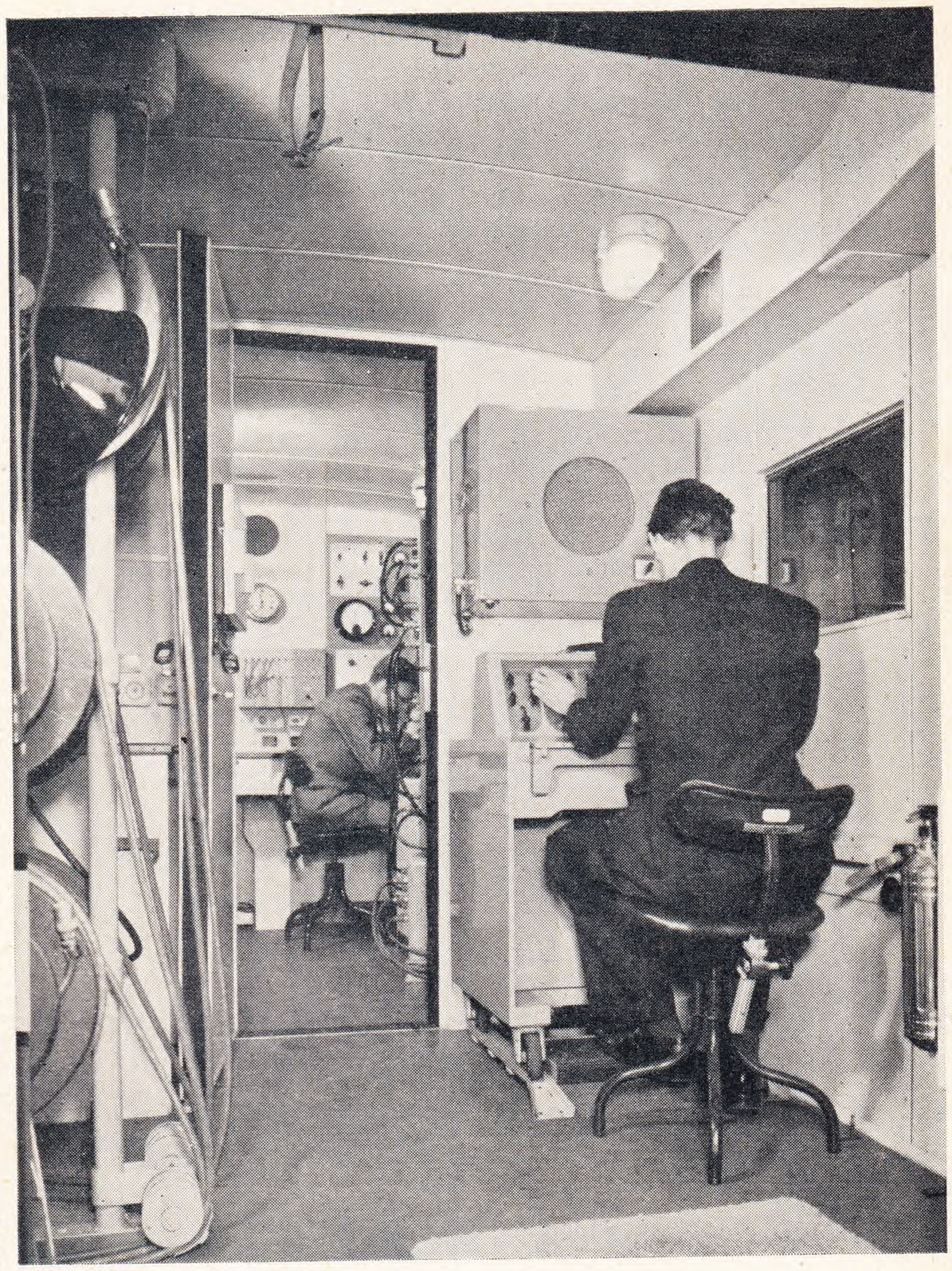
For synchronising the tape with the film, the pulse is reproduced on the screen of a cathode-ray tube by feeding as a time base a 24 c/s signal derived from the film equipment, and connecting the output from the pulse head to the Y plates. If the wave-form is maintained steady on the screen by control of the speed of the sound equipment, synchronism will be assured. Alternatively, an automatic control system, based on various types of phase discriminator circuit, may be used.

Mr. Leevers demonstrated his tape-recording equipment (previously described in the KINE.) embodying these features. The frequency range, he stated, extends to well beyond 10 Kc/s with a tolerance of ± 2 db., while the effective volume range is over 50 db. at 1 Kc/s.

To illustrate the high degree of synchronism attained, a 16-mm. film was projected of a close-up, full-face dialogue shot of three minutes' duration. The synchronism was perfect.

The speaker concluded by asserting that with this equipment all recording operations (other than microphone control) are under the control of a single operator. These machines have already carried out feature recording under conditions ranging from sun temperatures of over 110 deg. in Nigeria to air temperatures of 40 deg. below zero in Norway, and from humidity as high as 90 per cent. on the Gold Coast to the recent hurricane in Jamaica.

Both the above papers will be published in an early issue of the *Journal of the British Institution of Radio Engineers.*



The interior of the BBC Film Units' sound recording truck equipment by GB-Kalee. The rear compartment (in the foreground) contains the mixer desk and monitor, and cables and microphone are stowed on the left just inside the door. In the centre compartment (seen through the door) are the sound camera, amplifier group, and ancillary gear, with controls grouped within reach of the operator's position

BBC's NEW TV SOUND TRUCK

THE BBC Television Film Unit has taken delivery of a new sound-recording truck for location work and this will facilitate the unit's task of covering outdoor events for Telenews and providing background material for other TV productions.

The truck, equipped by GB-Kalee, is fitted with the standard Gaumont-Kalee photographic recording channel, modified slightly to permit the mixer and amplifier group to be coupled to the BBC's own amplification system.

The truck body is very spacious and can be made into a dark room for film loading or the routine processing of test strips of film.

The sound camera and amplifier group is carried amidships, and the mixer, monitor, microphone and cable are housed in the rear cabin and are, therefore, readily accessible.

All the special ancillary and control gear are neatly stowed, and the controls are conveniently grouped so that they can be manipulated from the camera operator's position.

The installation has been designed to give the maximum flexibility of control and operation under the most diverse conditions in the field or at headquarters.

In the field the unit can, of course, operate independently of mains supply, for the truck carries its own AC generating plant, powered by the bank of batteries carried in the truck. The batteries can be charged at any time, even whilst the truck is travelling on the road.

The equipment is transportable and can be speedily removed from the truck and reassembled in a studio, where it would be powered from the mains supply.

Since its delivery the equipment has been undergoing a vigorous and exacting test programme, and the BBC technicians report that the results are highly satisfactory.

ALL ABOUT THE CAMERA

THE British Kinematograph Society is holding a course of lectures on kine. camera technique in the main theatre, Ealing Studios, Ealing Green, London, W.5, at 8 p.m. each Monday, commencing on October 15.

Tickets are obtainable on application to the Secretary, The British Kinematograph Society, 117, Piccadilly, London, W.1. All applications for enrolments will be dealt with in rotation, and accommodation is strictly limited. The entrance fee for the course will be one guinea for members of the BKS and two guineas for non-members. The lectures have been specially arranged for continuity, and general discussion will follow each meeting.

Details of the programme are:—

October 15: G. C. Craig, "Film Stocks" (brief description of the general character and method of manufacturing motion picture film; consideration of the sensitometric characteristics of studio film emulsions; details of dimensional standards and characteristics of film support).

October 29: Dennis Robertson, "The Camera" (fundamental mechanical principles; intermittent motion; register pins; feed and take-up mechanisms; development of accessories; viewfinder; look-through systems; reflex systems; tripods and heads; blimps; modern requirements of various types; studio; hand-held; high-speed; 16-mm.; special cameras or adaptations; problems of silencing cameras; of ensuring steadiness; tendencies in future developments).

November 12: G. T. Ashworth. "Camera Maintenance and the Avoidance of Negative Damage" (maintenance of focus definition and optical limits; camera mechanisms; care of the intermittent movement and specialised adjustments; magazines and accessories; tripods; motors and filters, etc:; camera blimps; maintaining efficiency for sound).

November 26: G. H. Cook, "Photographic Lenses" (lens aberrations, their effect, minimising their presence, their influence on lens history; types of lenses; blooming, T.-stops).

December 10: J. H. R. Coote, "Exposing Colour Films" (brief description of the charteristics of different colour systems and their requirements for Technicolor, Dufaychrome, Dufaycolor, Gevacolor, Monopack systems, etc.; problems of bipack or two-colour systems compared with three-colour systems, as regards actual photography; sensitivity of different colour systems compared; methods of assessing correct exposure; purpose of colour charts; "Lillies" and other special test devices; tripods; exposure meters; colour temperature meters and other accessories and their uses).

December 17: F. A. Young, "Floor Technique" (relation of the camera to other floor equipment; use and abuse of multiple camera technique; camera drives, starting, stopping and marking systems; floor checks for black and white or colour; time-saving devices; special equipment; individual responsibilities of the camera crew).

BKS MEETINGS

A joint meeting with the Royal Photographic Society opens the autumn programme of the British Kinematograph Society at the G-B Theatre, Film House, Wardour Street, W.1, on October 3.

The subject will be "chemical shortages and the efficient use of processing solutions," which will be discussed by D. H. O. John, F. P. Gloyns, E. E. Flannery, C. J. Sharp and J. D. Kendall.

Other details of the programme are: October 10, industrial film technique (16-mm. division), by D. A. Gladwell and G. de G. Barkas; October 17, painted matte shots, by Eugene Hague and Peter Ellenshaw; October 22 and 23, visit to the laboratory of AB-Pathe at 109, Wardour Street, starting at 10 a.m.; November 7, colour photography and the human eye, by R. W. G. Hunt; November 14, a photographic technique for producing high quality 16-mm. prints, by A. Tutchings; November 21, technical aspects of "The Tales of Hoffmann" by Christopher Challis; December 5, the measurement of film stress, by Leslie Knopp; December 9, the new Phillips projector and sound equipment, introduced by Frank E. Durban; December 19, programme of unusual films, arranged by John Abbott.

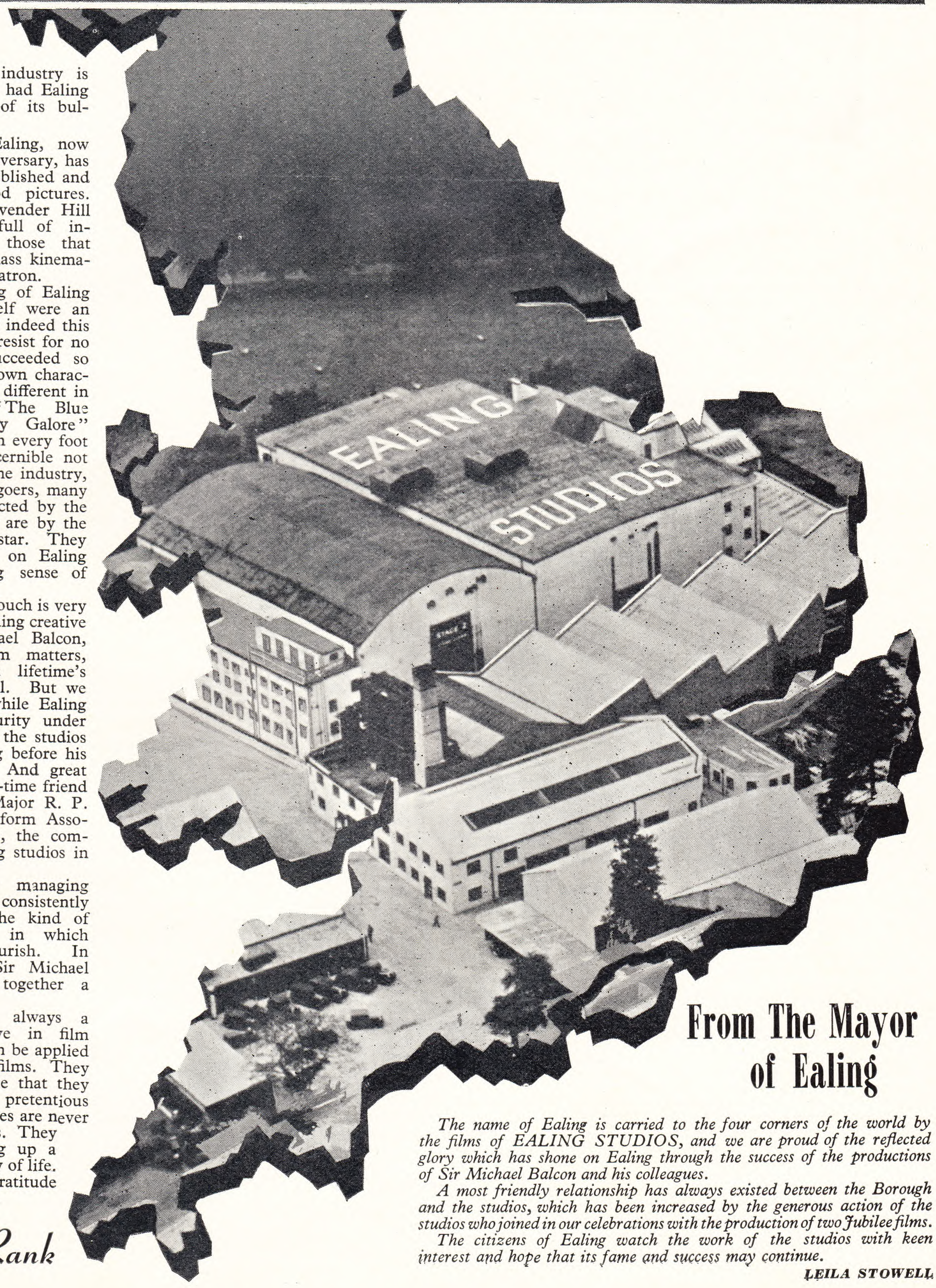
All the evening meetings are at 7.15 p.m. at the G-B Theatre.

Exclusive went on location at Rye for DEAD ON COURSE, starring Zachary Scott and Robert Beatty. This is part of the unit outside the Martello Tower where the action was filmed. Seated: Jack Curtis, chief electrician; Peter Bryan, chief operator; Harry Oakes, focus; Anthony Hinds, producer. Standing: Jimmy Harvey, cameraman; Terence Fisher, director; Keeper of the Tower; Bill Luckwell, publicity

CURRENT PRODUCTION CHART

Studio and Subject.	Stars.	Director.	Lighting Cameraman.	Producer and Renter.	Weeks on Location.	Progress on Stages (Weeks)
EALING—Ealing 6761						
"One Sinner"	Cecil Parker, Harry Fowler ...	Basil Dearden	Gordon Dines ...	Michael Relph (Ealing): GFD	—	3
ELSTREE (ABPC)—Elstree 1600						
"Where's Charley"	Ray Bolger, Alyn McClerie ...	... David Butler	Erwin Hillier ...	Warner Bros.: Warner's ...	1	10
"24 Hours of a Woman's Life" ...	Richard Todd, Merle Oberon ...	Victor Saville	Chris Challis ...	Ivan Foxwell (ABPC): AB-Pathe	6	—
MANCHESTER—Rusholme 4025						
"Never Look Back"	Rosamund John, Hugh Sinclair ...	Francis Searle	Reg Wyer ...	Michael Carreras (Exclusive—James Brennan): Exclusive	—	3
MERTON PARK—Liberty 4291						
Sponsored Subjects	———	———	———	———	—	—
MGM (BRITISH)—Elstree 2000						
"Hour of Thirteen"	Peter Lawford; Dawn Addams ...	Harold French	Guy Green ...	Hayes Goetz (MGM): MGM	—	3
NETTLEFOLD—Walton-on-Thames 2414						
"Saturday Island"	Linda Darnell; Tab Hunter ...	Stuart Heisler	Oswald Morris ...	David E. Rose (Coronado): RKO-Radio	10	4
"The Tall Headlines"	Mai Zetterling; Michael Denison ...	Terence Young ...	Pennington Richards	Raymond Stross: Eros ...	2	2
PINEWOOD—Iver 700						
"Hunted"...	Dirk Bogarde; Kay Walsh ...	Charles Crichton ...	Eric Cross ...	Julian Wintle (Independent Artists): GFD	5	6
"The Card"	Alec Guinness; Valerie Hobson ...	Ronald Neame and John Bryan	Ernie Steward ...	Ronald Neame and John Bryan (British Film Makers): GFD	3	4
RIVERSIDE—Riverside 3012						
"Dead on Course"	Zachary Scott; Robert Beatty ...	Terence Fisher	James Harvey ...	Anthony Hinds (Exclusive): Exclusive	—	4
SHEPPERTON—Chertsey 2211						
"The Sound Barrier"	Ralph Richardson; Nigel Patrick ...	David Lean	Jack Hildyard ...	David Lean; British Lion ...	7	5
"The Gift Horse"	Trevor Howard; James Donald ...	Compton Bennett ...	Harry Waxman	——; Independent FD	6	6
"Derby Day"	Anna Neagle; Michael Wilding ...	Herbert Wilcox ...	Max Greene ...	Herbert Wilcox (Imperadio): Brit. Lion	1	4
SOUTHALL—Southall 3281						
"Nothing to Lose"	Eddie Byrne, Jane Barrett	Lewis Gilbert	Wilkie Cooper ...	Herbert Mason (Group Three): ABFD	1	2
TEDDINGTON—Kingston 2181						
"The Crimson Pirate"	Burt Lancaster;	Robert Siodmak ...	Otto Heller ...	Warner Bros: Warner's ...	11	—
VIKING—Western 2516						
"Night Was Our Friend" ...	Michael Gough; Elizabeth Sellars...	Michael Anderson ...	Gerry Gibbs ...	Gordon Parry (ACT Films): Monarch	—	4

Ealing for England



THE British Film industry is fortunate to have had Ealing studios as one of its bulwarks for so long.

The fact is that Ealing, now celebrating its 21st anniversary, has become thoroughly established and excels in making good pictures. They are not all Lavender Hill Mobs, but they are full of inventiveness and even those that do not appeal to the mass kinemagoer delight the adult patron.

I find myself writing of Ealing as if the company itself were an individual person. And indeed this tendency is difficult to resist for no other company has succeeded so well in establishing its own characteristic style. Films as different in subject matter as "The Blue Lamp" and "Whisky Galore" have the Ealing mark on every foot of them. This is discernible not only to people within the industry, but increasingly to filmgoers, many of whom are now attracted by the name of Ealing as they are by the name of a favourite star. They have come to depend on Ealing realism and the Ealing sense of humour.

Clearly this personal touch is very largely due to the overriding creative influence of Sir Michael Balcon, whose wisdom in film matters, accumulated during a lifetime's experience, is proverbial. But we must not forget that while Ealing has only reached maturity under Sir Michael's guidance, the studios were in production long before his reign began in 1938. And great credit is due to his long-time friend and business partner, Major R. P. Baker, who helped to form Associated Talking Pictures, the company which built Ealing studios in 1930.

Major Baker, now managing director of Ealing, has consistently set out to maintain the kind of economic atmosphere in which artistic talent can flourish. In such an atmosphere Sir Michael Balcon has brought together a brilliant team.

"Modest" is not always a complimentary adjective in film circles, but I think it can be applied in good faith to Ealing films. They are modest in the sense that they are never pompous or pretentious and that production values are never exalted above story values. They have a way of holding up a mirror to the English way of life. They have earned the gratitude and affection of us all.

J. Arthur Rank

From The Mayor of Ealing

The name of Ealing is carried to the four corners of the world by the films of EALING STUDIOS, and we are proud of the reflected glory which has shone on Ealing through the success of the productions of Sir Michael Balcon and his colleagues.

A most friendly relationship has always existed between the Borough and the studios, which has been increased by the generous action of the studios who joined in our celebrations with the production of two Jubilee films.

The citizens of Ealing watch the work of the studios with keen interest and hope that its fame and success may continue.

LEILA STOWELL

THE HISTORY OF A TRADITION

The story of *EALING STUDIOS* is the story of an idea and a policy that have entertained Britain—and the world —with the British way of life.

An early Ealing discovery was a dark-haired young actress named Margaret Lockwood who had a small part in LORNA DOONE: soon afterwards she played her first leading role, also at Ealing, opposite Maurice Chevalier. The film was THE BELOVED VAGABOND

THAT unpretentious lodge, bearing the title "Ealing Studios," that stands modestly on a grassy-verged service road not far from Ealing Broadway is the gateway to a very large slice of the history of British film-making—and history is still being made there.

The tale of production at Ealing is really in three chapters: the first was from 1902 to 1918, when Will Barker made his "Bulldog" trade mark famous throughout the country; the second started in 1931, when Associated Talking Pictures began to build the nucleus of the existing studios; and the third was the birth of the present-day era, when Sir Michael Balcon joined the company.

Except that they have shared almost the same site, Will Barker and Ealing Studios have no physical link, but the history has been continuous and progressive since 1931, and one man has been behind it all since that date—Reginald P. Baker.

The company was formed in 1929 by Basil Dean and Sir Gerald du Maurier, who went into production at Beaconsfield early in 1930 with "Escape." It was at this time that Dean discussed his new plans with Baker, who joined the board in the middle of 1930. Stephen Courtauld and Major J. S. Courtauld, who had been associated with Reginald Baker in another connection, also joined the company, providing financial assistance. Since then, Reginald Baker has been responsible for the company's financial and general administration—a proud record of unbroken association with the Ealing group of companies throughout the whole period.

The First Bricks

Building of Ealing studios began in the spring of 1931. Four stages were planned for eventual erection, and the first stage was ready for shooting on December 2 of the same year.

The workmen were still putting the finishing touches to the stage when Basil Dean and his unit moved in to put into production the first film to be made at the new Ealing Studios.

The film was "Nine Till Six," which had been completed before the studios were officially opened, and "The Sign of Four" had been more or less completed by March 3, 1932. "The Impassive Footman" was actually on the floor when the Duke of Windsor (then the Prince of Wales) arrived to perform the opening ceremony.

Although it was not until the advent of Michael Balcon and the war years that Ealing Studios turned to the type of realistic production that has now become the company's hallmark, it is on record that in the earliest days Basil Dean tried to get realism and authenticity into his pictures.

When "The Impassive Footman" was completed, production began on the first of the Gracie Fields pictures to be made at Ealing (she had completed "Sally" before the building of the studios). This was "Looking On the Bright Side"—an appropriate title, for the Gracie Fields pictures tided the company over some of its most critical periods.

Promising Youngster

The loaning of studio space to other companies was exceptional quite early in the studios' history. It happened for the first time when Gloria Swanson came to England to make her first film for a company which she had just formed. The picture was "Perfect Understanding." Her leading man was a relatively unknown but rapidly rising newcomer named Laurence Olivier. He was playing what was to all intents and purposes an out-and-out slapstick part. Meanwhile Ealing's own production programme was maintained simultaneously on location.

The time had now come for Ealing to embark on more ambitious productions.

It would be easy to dismiss this period as one in which Ealing did little to raise the prestige of British films as a whole; but analysing the pictures does show that this assumption would be unfair.

One of the best remembered, perhaps, was "Lorna Doone," which was made largely in the Doone Valley in North Devon. It introduced Margaret Lockwood to filmgoers in a supporting part. One man who believed that she had possibilities, though he didn't think she was revealing them in this picture, was a talented young assistant director named Carol Reed.

There was no doubt about the success of the Gracie Fields pictures. Nothing could stop them. Gracie's infectious gaiety spread itself throughout the country in films like "Love, Life and Laughter," "Sing As We Go" and "Look Up and Laugh." "Look Up and Laugh" also marked one of the early appearances of Vivien Leigh.

Next to Gracie Fields, George Formby was the studio's most important discovery. He was a box-office gold mine. George came to Ealing after he had made a couple of small pictures for Mancunian, but he was not known to the wider public, and certainly not to Londoners. He turned out to be a phenomenal success from his very first picture for Ealing, "No Limit," produced in 1935.

Many leading ladies were introduced in the Formby pictures who, unknown then, have since become famous—many of them as dramatic actresses. Googie Withers was one. She was in "Trouble Brewing." Pat Kirkwood was introduced in "Come On George," and Phyllis Calvert, then unknown, got one of her earliest leading rôles in "Let George Do It." Many of these comedies were produced by Jack Kitchen, directed by Anthony Kimmins, and photographed by Ronald Neame.

Although comedy predominated in those Formby-Gracie Fields days, Ealing also went ahead with dramatic subjects: "Java Head," "Midshipman Easy," "Whom the Gods Love," "Laburnum Grove," "The Lonely Road," and many others.

At the same time, studio space was loaned for "The Dictator," with Madeleine Carroll; and "The Beloved Vagabond," with Maurice Chevalier, was made there.

The New Era

The Basil Dean era was drawing to a close, however, as his theatre activities were making more demands on him. Michael Balcon came in. The Ealing policy began to undergo a complete change.

The beginning of the Michael Balcon era at Ealing was officially in 1938, but to get to the real beginning one has to go back to a friendship which began in Balcon's early days as a producer in London. He had come from Birmingham and had formed with Graham Cutts, a company which eventually became Gainsborough Pictures. Skilled accountants, of course, were needed to look after the financial side; and Reginald Baker

SING AS WE GO was the greatest and most successful of the early Gracie Fields pictures. She had John Loder as her leading man. SING AS WE GO was for a long time the most successful commercially of all British films, but all Gracie's films were popular

Ealing productions began even before the studios had been built. THE WATER GIPSIES was among the earliest. Ann Todd—seen here with Richard Bird—had one of her first screen opportunities in this picture

John Mills in a slapstick comedy—flash-back to his appearance with Will Hay in THE BLACK SHEEP OF WHITEHALL

entered the film industry. An immediate and instinctive bond of sympathy sprang up between Balcon and Baker.

The friendship between Baker and Balcon never wavered, but their business association was severed when the Gainsborough company was sold to Gaumont-British. Balcon went with the new group as production head; Baker left his very active work in the film industry for the next couple of years.

Baker's interest in films had not evaporated, however, and in 1930 he joined ATP.

Meanwhile, Michael Balcon remained with Gaumont-British for eight years, and then took charge of the newly organised MGM company in England. But he was not happy. He wanted to be independent, and when he and Baker were talking one day, they decided to make some films together again.

So Balcon went to Ealing in 1938, at a time when production was at a very low ebb.

The Change Begins

The major alteration in the studios was that the parent company, ATP, eased off its active production, and the subsidiary studio-owning company, Ealing Studios, Ltd., began production on its own account. Balcon became a director of Ealing Studios, Ltd., as well as production head.

At the same time, arrangements were made for its pictures to be released through United Artists, instead of through its own Associated British Film Distributors (though later it returned to its own distribution before tying up with the Rank Organisation).

The type of production at Ealing gradually began to change, and something of the new form of Ealing product could be seen when "There Ain't No Justice" was made. It was the first of the pictures introducing factual screen reporting—a modest forerunner to the documentary-cum-fiction technique which Michael Balcon developed during the war years; but it was a long way ahead of its time. Exhibitors didn't think it was "box-office."

But it left its mark. It was the turning point in the career of young Jimmy Hanley, who had already made a name for himself as a child star, and somewhat near the bottom of the cast list and playing a character named Len, was an unknown young small-part player named Michael Wilding.

It is interesting to recall that this picture had a slogan which has since been repeated with "Hue and Cry": *The film that begs to differ.* The slogan was indicative of the Ealing policy in the years to come.

September, 1939, found a picture called "The Proud Valley" in production, the first to take what has become known as "the Ealing style" a stage further. It had a completely documentary theme.

The outbreak of war brought production to a sudden stop. No one knew what was happening. Many of the studio employees changed overnight into soldiers. The Government gave no hint as to its attitude towards the making of films.

Ealing didn't close down, however. Plans were put in hand for production to continue.

The next few films were produced as scheduled, but in the meantime a new policy was being worked out. Pictures with war-effort themes were planned. Co-operation from Government and Service departments was

Continued on page 15

1930—1951

Twenty-one Years of Progress

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POLICY THAT PUT US ON THE MAP

Reginald Baker (right) with Sir Michael Balcon and Stephen Courtauld

By *REGINALD P. BAKER*
Managing Director of the Studios

IN my capacity as a founder and the "oldest inhabitant" of Ealing Studios, I have been asked by the KINE. WEEKLY to write a short note on some of my recollections during the 21 years of Ealing's existence. I must confess that, looking at the years in retrospect, this does present a measure of difficulty.

To have been in continuous film production for a period of 21 years is obviously quite contrary to all the generally accepted theories, and it must, I think, imply that we have, over the years, had our measure of good fortune. Of this we are appreciative; and in humility would like to thank all those who have helped the organisation through the good and bad days which it has experienced.

What has become known as the Ealing Company first started its production operations at the beginning of 1930. Throughout the years all the films that have been produced—and they total some 160 feature films—have been very British in their nature; indeed, this was the whole motive underlying the original formation of the parent company in 1929.

Titles to Fame

The very first production was John Galsworthy's "Escape." Subsequent films included "The Fourth Wall," by A. A. Milne; "The Water Gypsies," by A. P. Herbert; "The Sign of Four," by Conan Doyle, and the numerous Gracie Fields and George Formby comedies, which will doubtless be remembered by those whose memories go back to the pre-war days. During the war era came films like "Convoy," "The Foreman Went to France," "San Demetrio," "Ships With Wings," three comedies with the late Will Hay, and "The Overlanders." Since the war, films like "The Captive Heart," "Hue and Cry," "Nicholas Nickleby," "Scott of the Antarctic," "Frieda," "It Always Rains on Sunday," "The Blue Lamp," and others, will be remembered, culminating in the last two films shown, "Lavender Hill Mob" and "The Man in the White Suit."

I have only taken the liberty of recalling these films in this way to underline still further the fact that the Ealing tradition is a really British one. We hold to the belief that we are better equipped to make films on subjects which we understand and which are inherent in the life, background and people of this country. Moreover, we have always taken the view that the main appeal must be to our domestic audiences, and that the overseas appeal would grow up from that basis. Over the years we think this has been proved to be the case.

Contribution to Progress

Twenty-one years seems to us in retrospect to be a long time in continuous production in one place—a good deal of thought, worry and heartache has been concentrated into those years. Though our commercial reward has not yet been forthcoming, we do take comfort from the thought that we have made our reasonable contribution towards the progress of the industry in the intervening years.

There is little that I can say regarding the 21 years of Ealing's existence. I feel it is more appropriate that the films which have come out of these studios should speak for themselves, and we are content that the industry and the public shall judge us on that basis.

We have endeavoured to make our contribution to the industry and its progress in the firm belief that it is on the efforts of the producer in all countries of the world that this world-wide industry of ours must live. We are fortunate in having at Ealing personnel who have an abiding faith in the production of films and an untiring enthusiasm in their work in the production of films. An organisation cannot be better or stronger than the manpower of which it is composed. We are, indeed, fortunate in our manpower.

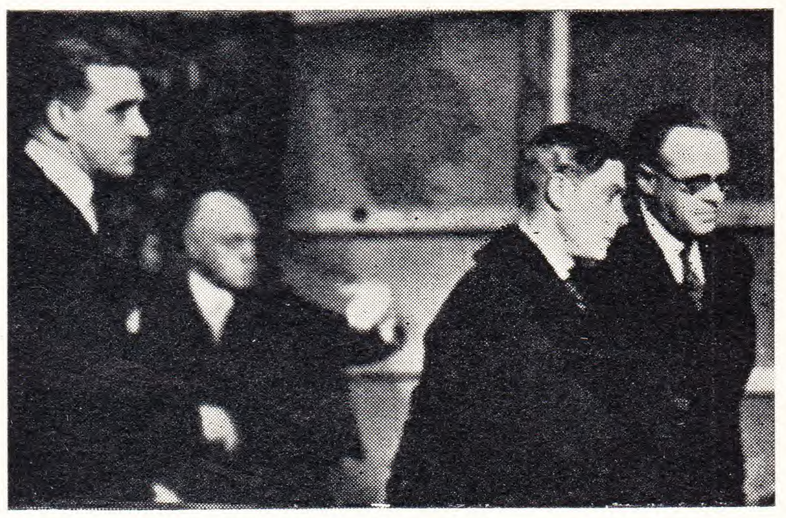
The Team

To Stephen Courtauld I would like to express our great thanks for his unflagging and statesmanlike financial support over the whole period of Ealing's existence. It was on his broad shoulders that the original conception of Ealing Studios was built; to Basil Dean for his original long-sightedness in the planning of Ealing and its productions; to the National Provincial Bank for their industrial understanding and unswerving support in our operations. To Michael Balcon we owe very special thanks. Not only have we had available his great production experience and critical faculty, and his tremendous energy and enthusiasm, but he has inspired energy and enthusiasm right through the production personnel.

We want all our associate producers, directors, writers, and all the high-grade technical personnel to know how much we appreciate their enthusiastic and whole-hearted work.

Our thanks are also due and given in full measure to all our craftsmen, one of whom during the heavy bombardment period of 1940 said to me: "We cannot retreat for ever!" which simple comment gave us added stimulation to carry on the production of films at Ealing under conditions which were not at that time entirely encouraging, and, moreover, at a time when evacuation and decentralisation were very much the order of the day. To the whole of the Ealing family, whose team spirit has now become well known in the industry, we do convey our sincere thanks for their help, encouragement and stimulation over the past 21 years.

Finally, may I add our thanks to Arthur Rank and his organisation, with whom we have worked in close co-operation for the past six years, and for their sympathetic encouragement. To conclude on a personal note, I would like to say "thank you" to John Davis, the mainspring of that organisation, whose sympathetic understanding from time to time has been so outstandingly helpful.



The Duke of Windsor (then Prince of Wales) paid an official visit to Ealing in 1932. He is seen with Reginald Baker (left) and Basil Dean

A notable occasion was some years ago, when the two young princesses, Elizabeth and Margaret Rose, were visitors. They are here being escorted by Reginald Baker and Sir Michael Balcon

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A STYLE OF THEIR OWN

By SIR MICHAEL BALCON

Executive Producer

THE studios at Ealing were leading a fertile and useful life for eight years before my arrival: I am therefore very much conscious of the fact that, relatively speaking, I am a new boy.

If I nevertheless dare to speak, it is because the seeds of the present set-up at Ealing were sown elsewhere a long time ago. In the early twenties, Graham Cutts and I had founded a company which eventually became Gainsborough. Neither of us had much of a head for figures, and we were very dependent —too dependent, for our liking—on our accountant.

However, I owe him a great debt, for one day he was ill and sent in his place a young man, tall, slim, with a brilliantly clear mind and a great sense of humour. From the first meeting I felt that this was the one person with whom I would like to work; his name was Reginald Baker, and we asked that he should be allowed to deal with our business.

The results were certainly staggering: Negotiating for us the acquisition of the Islington Studios, for which £100,000 had been asked, he had our offer of £14,000 accepted! After which he went on to arrange that the money which we did not have should be paid over a period of four years. I can pay no greater tribute to his value as a business associate than to quote this incident. However, after some years circumstances parted us, Baker going off to found and build up a new studio at Ealing.

Mutual Understanding

It was for this reason that when I came to Ealing in 1938 it was the resumption of an old friendship rather than launching out on something new. And if the years since then have been the most satisfying of my career in films it is due in great measure to Reginald Baker. His understanding of and sympathy for the production side of the organisation is such that we have been able to draw a firm line of demarcation between the financial administration and production, based on a full mutual confidence.

He knows, I hope, that I would never involve the company in any unnecessary financial risk, and against that I can work in the certainty that if an unusual financial outlay is justified by an artistic effect to be achieved, the money will be made available if it is at all possible. This interdependence also means independence in production to me, and it is this that has made the whole growth of the Ealing tradition possible.

In terms of actual films, the tradition could probably be dated from "There Ain't No Justice," Pen Tennyson's first work. I had always felt very strongly that to achieve the double aim of making a constructive British contribution to international kinema and of putting in our own theatres a product attractive in its own right, British film-makers should stick to subjects which they, and only they, really understood: the contemporary British scene.

I felt that we could not compete with the American output if we merely imitated it. But if we made essentially "native" films, films about people and events similar to those familiar to our audience, then, regardless of whether we used a dramatic or comic approach, we should be doing something which only we could do successfully, and which would be welcome everywhere.

Taking the narrowest view, the war came as a justification of this attitude. Such films as "Next of Kin," "Nine Men" and "San Demetrio, London," to quote only a few of those that came from this studio, showed the immense value that a realistic product had. This meant that, after the war, instead of having to fight to have our standards accepted, we could continue, adapt and widen our policy of native realism on the firm foundation of the popularity and international standing of the British output of the war years.

With the end of the war there was a slight shift over from strict realism to a more fictional treatment of reality, and from the difficulties of war-time life to the lighter side of the national character. Nevertheless, clearly the same beliefs underlie the war films and such works as, on the one hand, "The Captive Heart," "The Overlanders," "It Always Rains on Sunday" and "The Blue Lamp," and, on the other hand, "Hue and Cry," "Whisky Galore," "Passport to Pimlico," and the rest of the so-called "Ealing comedies."

That brings me to what is probably the most important point: that slowly, over these years "Ealing" has become less the name of a studio than a generic term to describe a certain type of film and a certain approach to the material.

People will talk of the new Carol Reed film or "the latest Anna Neagle"; although it is easy to see the difference between work by, say, Robert Hamer and Harry Watt, between Charles Frend and Sandy Mackendrick, or between Charles Crichton and Basil Dearden, the result will be referred to as "the new Ealing picture." And quite rightly, too, for the similarity—the underlying conception of a native kinema—is much stronger than the personal tastes for particular kinds of subjects or technique.

Of course, we are lucky. The studio is small, so that we all know each other, and none of the impersonality of a large organisation can creep in. But it is not all luck, but rather a deliberate attempt to create stable employment and thus train men on a long-term policy.

Some of the directors I have already mentioned: they, together with Gordon Rayner and Leslie Baker on the administrative side, Hal Mason and the associate producers—Michael Relph, Sidney Cole, Leslie Norman, Michael Truman, Danischewsky—and many others have all worked at Ealing for many years, and hold their present positions after gaining experience in the cutting-rooms, art or publicity departments or as assistants.

Strong Team Spirit

The years they have spent together have resulted in an outstanding loyalty to the idea of "Ealing"—an idea, indeed, that could not exist without them—and in the strong team-spirit which is so essential in film production. This fine spirit extends all the way through, to the craftsmen, the carpenters and plasterers, and to the commissionaires; many of them are veterans here, and many of them have children following in their footsteps.

In the ever-shifting world of the kinema this is rare, and from this, in great measure, is derived the smooth working of the studios, the high technical quality of the output and, above all, the pleasant atmosphere which is an ideal condition for good work.

Finally, of course, no list of our blessings would be complete without mention of Mr. J. Arthur Rank, Mr. John Davis and all the members of their organisation.

At Ealing, we have never produced "great names." But we have tried to start a new movement in feature-film production, to found a native school of film-making of high quality to take its place with the output of America, France, Italy and the other countries.

We have tried to reflect something of Britain as we see it, dramatic or ludicrous, into the kinemas here and abroad. If we succeed, I think we will have achieved something of value in the present and of help to the future; and if we succeed it will not be thanks to any one of us, but because it was an aim we all held in common and which took priority over all our individual indiosyncrasies.

AND THE MEN THAT FASHION IT

Hal Mason, director and general manager of Ealing Studios, started in the film business as an extra and "stunt man." He turned to the production side and became a third assistant director in 1933. He was a first assistant within a short time and then unit production manager, working in several British studios before joining Ealing in 1940. In the 11 years he has been at Ealing he has worked very closely with Sir Michael Balcon, who was quick to recognise his abilities.

Lieut.-Colonel Gordon W. G. Rayner, director of Ealing Studios, Ltd., ATP, Ltd., and ABFD, Ltd., entered the film industry in 1931 with the Ealing group, later becoming company secretary. During the war was with the Army Kinematograph Service. Is now director in charge of Associated British Film Distributors, Ltd.

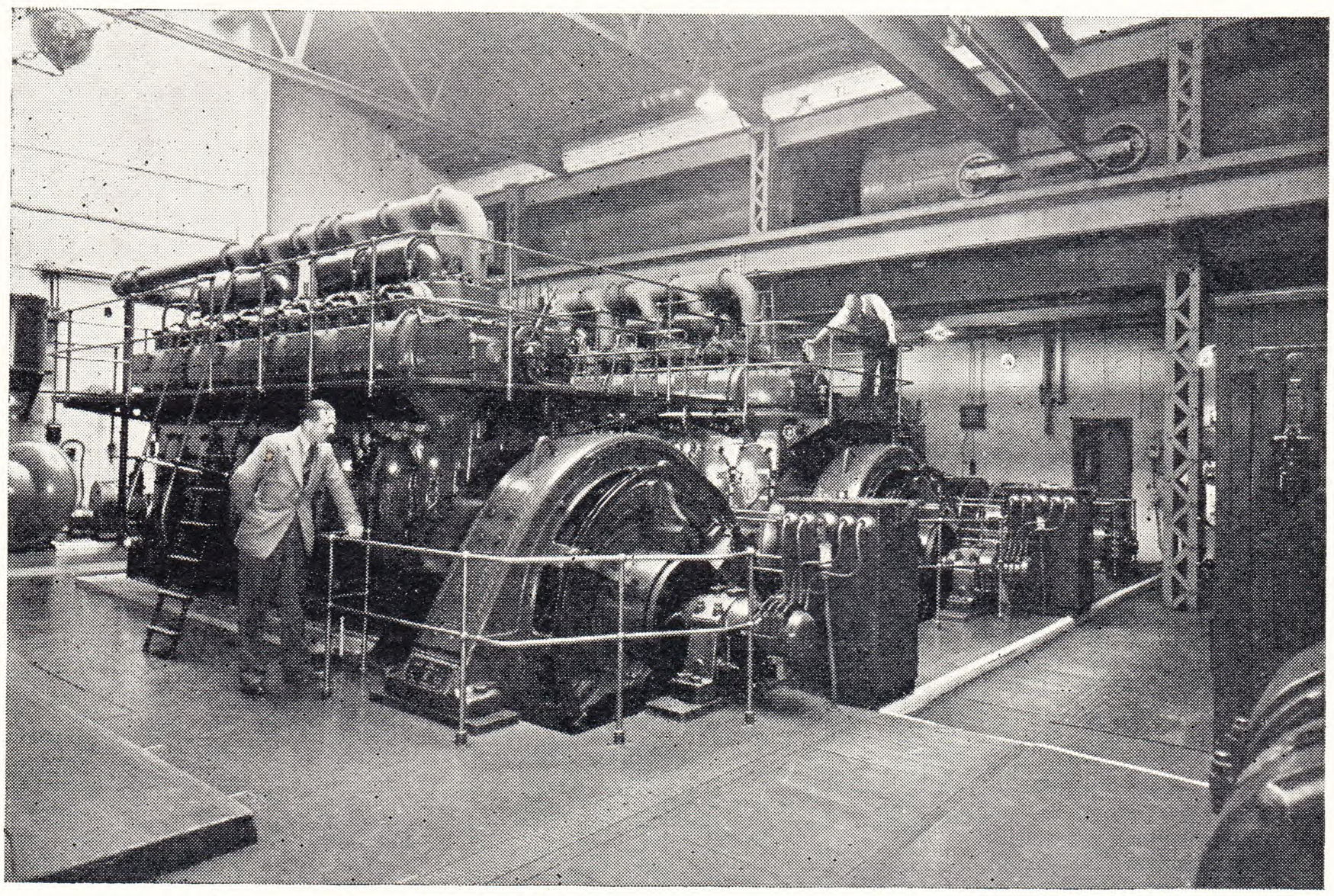
Continuation on page 11

HAL MASON

LT.-COL RAYNER

21 YEARS OF SERVICE

The G.E.C. electrical equipment installed in the power house of EALING STUDIOS in 1930 is still in service—another example of G.E.C. reliability. It consists of two 400 kW, 240 v, 300 rpm, DC generators directly coupled to Ruston and Hornsby oil engines, a 200 kVa, 415 v, 3-phase, 50 cycle, 375 rpm, salient pole alternator and two switchboards.



The Ealing Studios Power House, showing the generators supplied by the G.E.C.

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A STYLE OF THEIR OWN—continued

LESLIE BAKER

Leslie F. Baker, secretary and director of Ealing Studios, entered the film industry with Gainsborough in 1924, remaining until 1930, when he joined Baker, Todman and Co., chartered accountants, as a partner. In 1933 he joined Gainsborough and Gaumont-British as assistant general manager. In 1936 he became director, secretary and general production manager and associate producer of 20th Century Productions, Ltd. In 1943 he joined Ealing Studios as secretary to the company and the board of directors in 1946.

SIDNEY COLE

Sidney Cole was a scenario reader, then went on the floor as a clapper boy, eventually becoming a cutting-room assistant before being promoted to editing, later becoming supervising editor at Ealing Studios of such notable films as "Nine Men" and "San Demetrio, London." Since becoming an associate producer, his films have included "They Came to a City," "Dead of Night," "Scott of the Antarctic," "The Magnet," and "The Man in the White Suit." He has just finished producing "Secret People."

M. DANISCHEWSKY

Monja Danischewsky thought up the "mobile studio." Before this, Danischewsky was director of publicity at Ealing Studios.

Danny left Ealing to produce "The Galloping Major" and has now returned as producer on a subject which will be made next year.

LESLIE NORMAN

Leslie Norman, who joined Ealing Studios as film editor, went straight into the film business from school at the age of 14, first in the laboratories and then into the studio cutting rooms. He edited some of Britain's first talkies for De Forest Phonofilms, then joined Elinor Glyn for two pictures. After this he was editor at BIP and later joined Warner Brothers at Teddington, where he became supervising editor and then director. Norman's first editing job at Ealing was "The Overlanders," and this was followed by "Nicholas Nickleby" and "Frieda."

His first film as associate producer was "Eureka Stockade," made in Australia. This was followed by "Bitter Springs," "A Run for Your Money" and "Where No Vultures Fly."

MICHAEL RELPH

Michael Relph has collaborated with Basil Dearden on many of his pictures, an association going back to the time he transferred from art direction to becoming an associate producer and production designer. His film career began as an assistant art director in 1932.

As associate producer he has worked on "Frieda," "Kind Hearts and Coronets," "Train of Events," "The Captive Heart," "Cage of Gold," "The Blue Lamp" and "Pool of London." Now producing "One Sinner."

MICHAEL TRUMAN

"The Lavender Hill Mob" introduced a new associate producer in **Michael Truman.** Formerly an assistant director, he changed to editing as an assistant and cut "Return of the Scarlet Pimpernel." He had been an editor at Ealing Studios since 1944. Recent films include "It Always Rains on Sunday," "Saraband for Dead Lovers," "Passport to Pimlico" and "A Run for Your Money." He became producer on "His Excellency."

CHARLES CRICHTON

Charles Crichton will long be remembered for his direction of "Hue and Cry." His other films include "For Those in Peril," "Painted Boats," the golf sequence in "Dead of Night," "Against the Wind," and "Another Shore."

He began as an assistant in the cutting rooms at Denham. He established a reputation as one of the finest editors in British films, and among the many well-known pictures on which he worked were "Things To Come," "Elephant Boy," "Prison Without Bars," and "The Thief of Bagdad." Joining Ealing Studios as an editor, he was promoted to director with documentary "shorts." His latest Ealing film is "The Lavender Hill Mob."

BASIL DEARDEN

Basil Dearden is recognised as one of the most successful directors in this country. He has been with Ealing Studios since the beginning of his film career, when he began as a junior assistant after being stage manager to Basil Dean for five years. After climbing the rungs of assistant direction, he became an associate producer and then director, after co-directing with comedian Will Hay on his comedies. Basil Dearden directed "The Halfway House," "The Captive Heart," "Frieda," "Cage of Gold," "The Blue Lamp," and "Pool of London." He is at present directing "One Sinner."

CHARLES FREND

Charles Frend was born in Pulborough, Sussex, and while at Oxford decided on a career in film production. He learned the business of cutting on one of Hitchcock's early films, "Lord Camber's Ladies," and worked as an editor on many other Hitchcock productions. He joined Ealing Studios as an editor in 1941 and was promoted to directing on "The Big Blockade." He has since directed "The Foreman Went to France," "San Demetrio, London," "The Return of the Vikings," "Johnny Frenchman," "The Loves of Joanna Godden," "Scott of the Antarctic," "A Run for Your Money," and "The Magnet."

ROBERT HAMER

Robert Hamer is recognised as one of the most brilliant young directors in Britain. He originally intended to become a mathematician and economist, but films attracted his attention and he began his film-making career as a "number boy" at Gaumont-British in 1934, moving the following year to London Films as a cutting-room assistant. He became an editor and joined Ealing in this capacity in 1940 before being made an associate producer and then director, handling the mirror sequence in "Dead of Night," "Pink String and Sealing Wax," followed by "It Always Rains on Sunday," "Kind Hearts and Coronets" and "The Spider and the Fly." He has just completed "His Excellency."

ALEX MACKENDRICK

Alexander Mackendrick is a Glasgow-Scot, born in America during a visit of his parents over there. He was brought up in Glasgow and made his first contact with films in 1934 when he and Roger MacDougall wrote a story which was accepted for filming. Joining an advertising company, he found himself working eventually on a series of cartoon films. From here he went into the documentary film world. He joined Ealing Studios as a script writer and became a director, with "Whisky Galore!" as his first film. His latest film is "The Man in the White Suit."

HARRY WATT

After taking a commercial degree at Edinburgh University, **Harry Watt** did a variety of jobs before finding his way into the film business when he was offered a job with the old GPO Film Unit (afterwards the Crown Film Unit).

He directed "Britain at Bay," "Squadron 992" and the never-to-be-forgotten "Britain Can Take It," "Christmas Under Fire" and "Target for Tonight."

Ealing lured him away from the documentary world in 1942 and his first feature production was "Nine Men." He then decided he would like a complete change and made a Tommy Trinder comedy, "Fiddlers Three," and then "The Overlanders," "Eureka Stockade" and "Where No Vultures Fly."

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THE DAYS BEFORE...

British pictures were being made on the site of Ealing Studios as long ago as 1902 by *WILL G. BARKER*

YEARS before Ealing became the Ealing that everybody knows today it was the home of motion picture-making, and the man behind it was Will G. Barker, who, at 84 years of age, is still very active—but not as a film producer.

He made films from 1902 to 1918 on the site of the present Ealing Studios; and he made money out of making them. A retired commercial traveller, whose hobby was photography, he was fascinated, on a visit to France, by the amazing camera of the Lumiere brothers that took and projected moving pictures. He brought one back to England—it cost him £40—and bought West Lodge, Ealing, and its 3¾ acres of ground, including a house called The Lodge, facing the Green, which is now Ealing's offices.

The grounds were Will Barker's "studio" at the start. His early pictures were all made out of doors. Fifty feet, the maximum capacity of the Lumiere camera, was their length and the "unit" worked only from 9 a.m. to 3 p.m., the hours closest to the light intensity of high noon.

These fifty-footers were sold for a guinea a copy to kinemas and showmen, but, says Barker, "the showmen were the best part of my custom." There were dramas, such as "The Kidnapped Child" (in which Will's eldest son, Kenneth, then aged two, was the child), and topical subjects, the precursors of the newsreel.

Greenhouse Studio

It was in 1907 that Will built the first stage at Ealing, though he still sticks to the old name "studio" for what we now call "stages." It was very like a photographic studio and, as it had to be almost entirely of glass, Will, who has never lacked for ideas in improvisation, naturally went to the local horticultural builders and got himself a "greenhouse" with special panes of white glass.

That year, according to Will, saw also one of the first price-cutting wars in the industry, when Pathé offered films at 4d. a foot instead of a guinea for 50 ft. Will answered the challenge by helping to found the Kinematograph Manufacturers' Association, of which he was chairman for seven years. "We founded it to keep the price at a guinea for 50 ft.," he will tell you, "and I am proud, too, of the fact that we also formed the censor board and I was chairman of it for five years."

Keeping up the price was a plain matter of survival, for the pictures had to be made on a shoestring and they had to be made fast for a quick turnover. In his hey-day Will was supplying nearly 450 situations with two changes of programme (two films to a programme) each week.

It took some doing in a six-hours' working day and meant that everyone turned to and helped with any task that was handy; there were no specialists in those days, except that some people knew less about one particular job than about another.

Is there anything new in this film game? In Will's opinion, not much. It was in 1908 at Ealing that he made his "first talking picture" in co-operation with the late Billie Jeapes, father of Clifford Jeapes. The occasion was really one of the original essays in dubbing. The very first was "Oh, Oh, Antonio." Will bought a record of the song and photographed an artist miming it. Then he hired out the whole outfit, including the gramophone and records.

"It was very popular with the penny showmen, and so was 'Ora Pro Nobis.' You either make them laugh or you make them cry; that's a showman. The records used to get out of sync., but no one minded much; it was talking pictures."

Eventually, Will had no fewer than three of his glass studios at Ealing, and out of them came some of the earliest epics of the British production industry.

He made "Hamlet" there in one day. It was in 22 scenes, the sets being built one inside the other, each "skin" being ripped away as it was used. The only scene left over was that of Ophelia floating on the stream, which was done later on a backwater at Shepperton. It all cost Barker £180 and he made £600 out of it.

Barker also claims to be the only man ever to have used Beerbohm Tree in a film. It was Shakespeare again: "Henry VIII" this time. Tree asked for, and got, £1,000 for five hours' work. Will had to borrow the money, but it was worth it.

Other great names that he brought to the screen were Lewis Waller and Madge Titheradge, H. B. Irving, Alice Delysia (as the heroine of "She"), and George Formby.

"Sixty Years a Queen," taken from "The Life and Times of Queen Victoria," including the copying of the book illustrations to build the sets, was a big undertaking, "but it had nothing about her private life. I'm a Victorian and I wouldn't allow it. Our biggest trouble was that we could not get six cream horses to draw the coach; so we just got six horses and white-washed 'em, and it looked fine on the screen." Will sold it to Bertie Samuels and "made a pile of profit."

George Formby was a very young and small jockey when Will employed him for a race sequence. To get a shot of the horses racing neck and neck he put the camera on a car and ran alongside them; it was moving pictures all right!

"Even pre-1914 we were up to date," comments Will.

Biggest Epic

His biggest epic was probably "Jane Shore," the cost of which ran into several thousand pounds and for which he used 5,000 extras. The "Battle of Marston Moor" was fought on the downs behind Brighton.

All these and many other productions were founded on Will's establishment of what may well have been the first group of contract players. He brought together a repertory company of 17 actors and actresses.

How old is the newsreel? Certainly as old as Will's moving picture activities, but he won't have the word "newsreel" at any price. "Topicals" was what he called his exploits in the news field, and they are still "topicals" to him today.

Among Will's scoops were the funerals of Gladstone and Queen Victoria, Royal Coronations, several Derbys and Grand Nationals.

There were big fights, too. Will was "official kinematographer" to the National Sporting Club. So as to be certain of getting the film rights of the Bombardier Wells-Jack Johnson fight, he promoted the fight himself—and lost £9,000 on the deal.

Will recalls with obvious enjoyment the way he put over the film of the wrestling match at Olympia between Hackenschmidt and Madrali, which he had sold in advance to his eager customers among the kinemas and showmen. When he got to Olympia there was no light and he could not expose a foot of film. Then, as now, Will was never beaten for a bright idea. He persuaded the two wrestlers to go through it all again on a flat roof-top the following afternoon—and his customers saw the bout and never knew the difference.

"Invented" Trade Shows

Another of Will's claims to originality is that he "invented" the trade show. That was in 1905 at the Palace Theatre, to boom a series called "From the Cape to Cairo."

During the war he made about 40 recruiting films for Kitchener, but when 1918 came he decided that he was too old to go on making films and he has made none since.

Retired? Not a bit of it. He has merely gone back to his old love—photography. As director of the Roll Film company at Wimbledon he supervises a firm that deals with four or five million prints a year of snaps taken by amateur photographers.

He is still a film fan, and it is hardly surprising that whenever he can he goes to see pictures made at Ealing.

British films, he believes, have just as promising a future as they had in his own days, "when Britain supplied the world." He has no fear of television; he went to see a large-screen demonstration, and his verdict was: "It's got no guts."

Forty years ago Will Barker wrote in the KINE. (then the *Kinematograph and Lantern Weekly*):—

"I am certain that the topical fact picture . . . will continue as a very lively and potent factor in the kinematograph industry."

Forty years of making and seeing films have not changed his views.

GRAHAM CLARKE

Will Barker (on the bonnet) with some of his stock company of artists

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BRANCHES THROUGHOUT THE COUNTRY

James Mason, then just on the verge of becoming a top box-office star, appeared with Tommy Trinder in THE BELLS GO DOWN

The History of a Tradition—contd.

sought, and the first of these new propaganda-type pictures went into production. It was "Convoy," Pen Tennyson's last film before going into the Royal Navy. It had a factual background with a fictional story. No one took any particular attention of the young man playing the part of a naval officer: his name was Stewart Granger.

These were busy days at Ealing. One film overlapped another. There were pictures like "Ships With Wings," "The Big Blockade," and, for lighter-hearted entertainment, Will Hay and George Formby comedies and the introduction of Tommy Trinder to filmgoers.

The Will Hay films brought a new director into the limelight: Basil Dearden, who had graduated from being a junior member of the studio staff. One of the Will Hay films was "The Black Sheep of Whitehall," and John Mills played a part which called for unqualified slapstick scenes. Another was "The Goose Steps Out," with Peter Ustinov in a supporting rôle.

Then Stage 2 was bombed and space had to be borrowed at Wembley to help out with the heavy production programme. That year Ealing made "The Foreman Went to France," which was an experimental picture in several ways: it was Cavalcanti's first feature film at Ealing as an associate producer; it brought promotion from the cutting-rooms to the realms of direction for Charles Frend; it brought Gordon Jackson to the screen for the first time; and it introduced Tommy Trinder in his first straight film.

Gamble that came Off

Ealing came under a veil of secrecy in 1941—hidden from the world under the Official Secrets Act. "Next of Kin" stands out as one of the most remarkable pictures made there.

It was made by the War Office, which commissioned the company to produce a film to warn soldiers against the dangers of careless talk. It was to be made only for the Services and was not to be seen by the public. Thorold Dickinson, himself in the Army as a major, came in to direct it.

Michael Balcon thought it should be seen by the public, and the studios took a gamble by subsidising the film in order that it should be made on a more comprehensive scale. The venture was taken without any idea of profit, and when the gamble did come off, and the film was generally released to the public, the Crown benefited by receiving the profits which the film eventually made.

In the early thirties the studios were loaned to the Hollywood glamour queen, Gloria Swanson. She gave Laurence Olivier one of his earliest screen roles in PERFECT UNDERSTANDING

Ealing continued with these vital, propaganda-type subjects throughout the remainder of the war years, sometimes wrapping the films up in the form of fiction, other times making them in purely documentary style, films such as Harry Watt's "Nine Men"; Charles Frend's "San Demetrio, London"; "For Those in Peril," which gave another new director his first chance, Charles Crichton; a colleague was another young man, Bob Compton Bennett, who was soon to be brought out of the cutting-rooms to direct a "short," and later gained fame for his direction of "The Seventh Veil." "For Those in Peril" also attracted attention, too, to David Farrar.

A new Ealing tradition had been established while the war was on. Under Michael Balcon's guidance, the studios had reacted to the stimulus of great events and its films had acquired a journalistic touch.

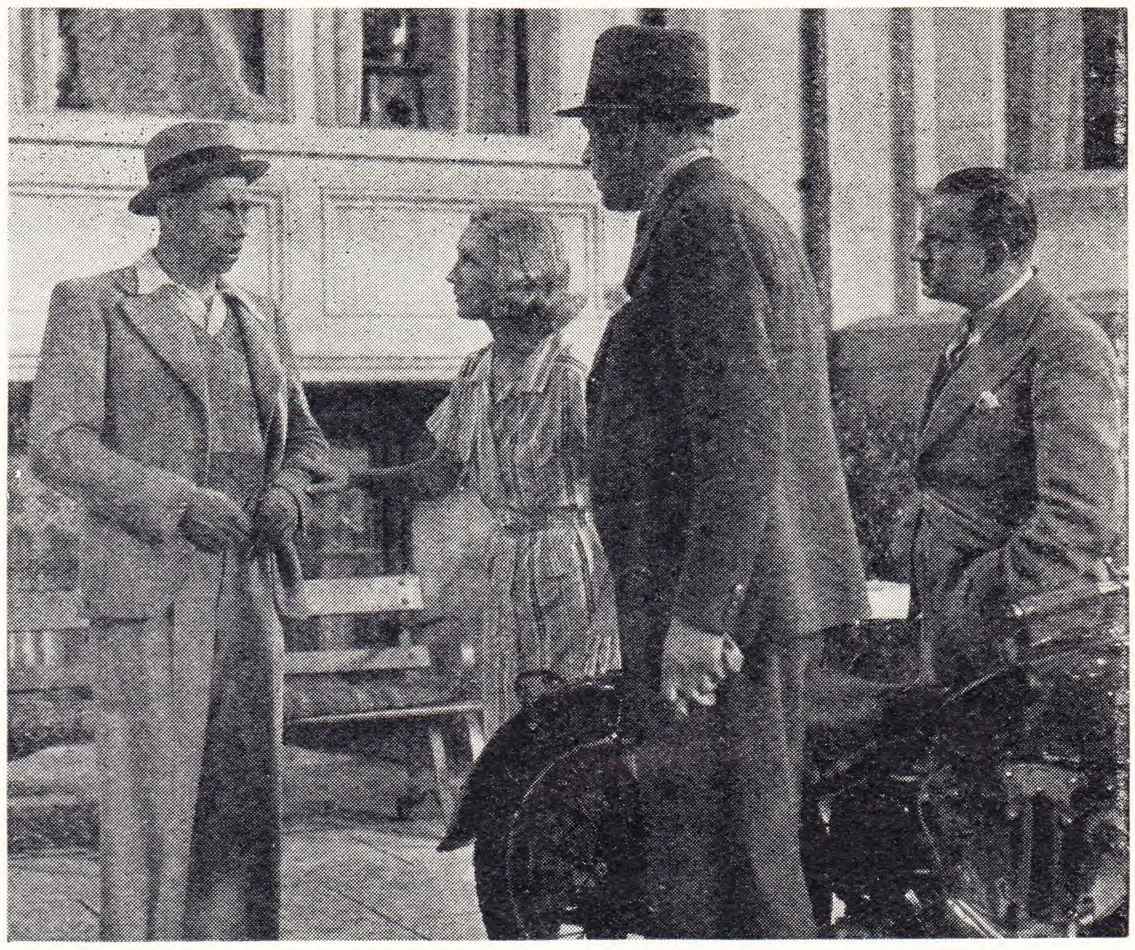
What of peace-time conditions?

There was never any doubt in Sir Michael's mind. The pattern formed in the past few years was to be continued, with the problems of peace taking the place of the problems of war.

The studio looked to wider horizons. Even before the fighting finished, the decision had been made to make films in Australia.

"The Captive Heart" was the first of Ealing's post-war productions to point the way to the future.

The films since then are still fresh in most minds: "Hue and Cry," "Frieda," "It Always Rains on Sunday," "Scott of the Antarctic," "Passport to Pimlico," "Kind Hearts and Coronets," "Whisky Galore," "The Blue Lamp," "The Magnet," "Pool of London," "The Lavender Hill Mob" and "The Man in the White Suit."



Ingenuous charm, a toothy grin and a ukulele arrived at Ealing Studios in 1935. George Formby proved to be a gold-mine for the studios, where he began a long series of happy comedies, starting with NO LIMIT, in which Florence Desmond was his leading lady

Services to Industry

These and their predecessors mean that Ealing, now in its 21st year, is no longer merely the name of a pleasant borough in the western outskirts of London: it is a tradition of sustained, consistent story-telling that is familiar, respected and welcomed wherever the free kinema exists.

The story of Ealing is not only the story of a studio. It is the story of personalities, dominated by Reginald Baker and Michael Balcon who, in turn, have played a predominant part in industry affairs. Both have been members of the Films Council at different times. Baker's activities include past-presidency of the Kinematograph Renters' Society for a record period of four and a half years, president of the British Film Producers' Association and membership of the Board of Referees, appointed by the Treasury. Balcon, besides his work for Ealing, is honorary adviser to the National Film Finance Corporation, chairman of British Film Makers, Ltd. (Pinewood), chairman of Group Three productions—the two companies set up under the NFFC Group scheme—a director of the J. Arthur Rank Production Organisation, and of Odeon Theatres, Ltd., chairman of Festival Films and one of the founders, and chairman, of the British Film Academy.

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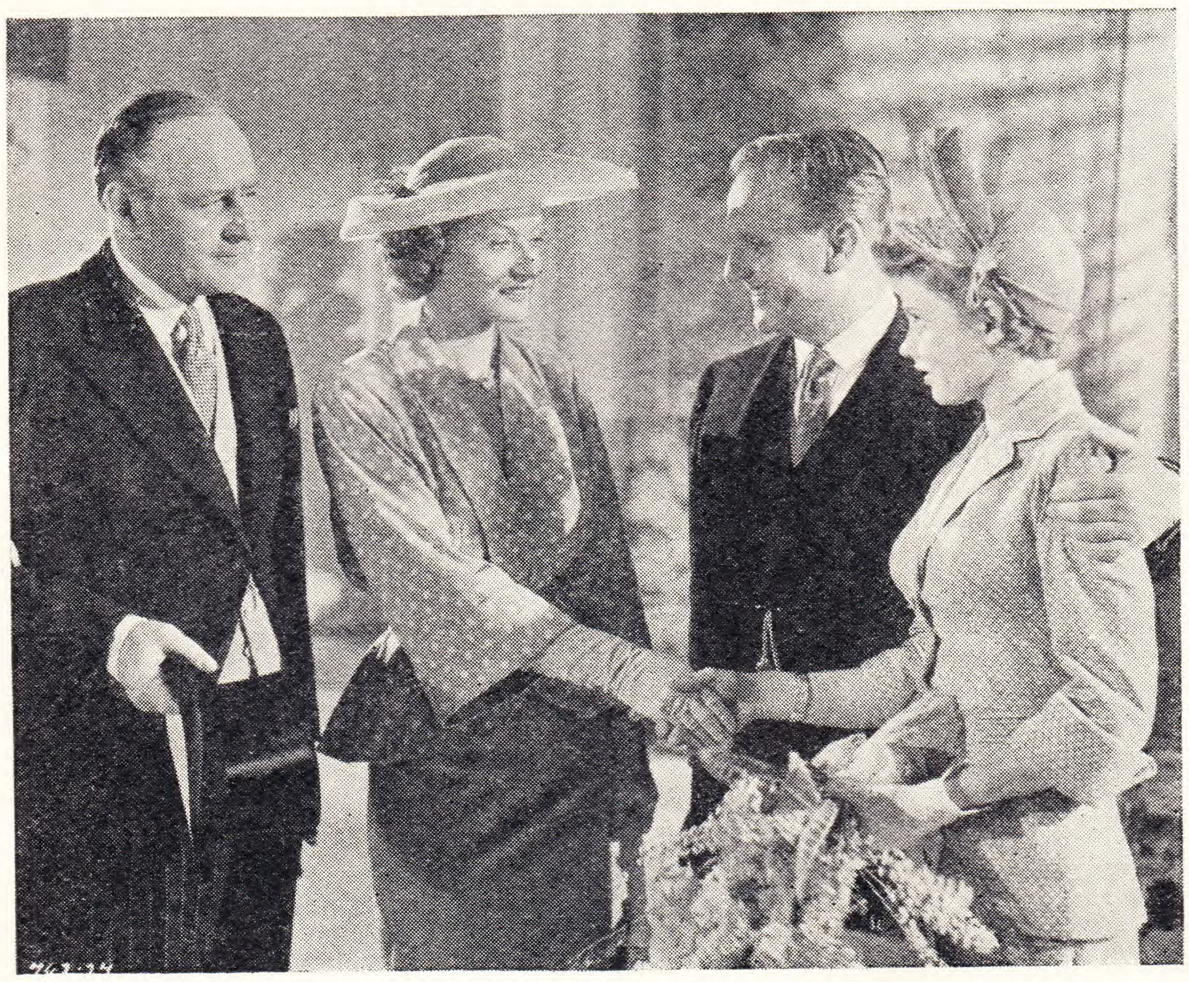
On the Way to the Screen

These pictures show scenes from four Ealing films that have not yet been seen by the trade. The African drama, "Where No Vultures Fly," the latest of the studios' Empire adventures, was made on location, concurrently with several of the others at home. "One Sinner" is now on the stages at "The Green."



Above: Anthony Steele in the Technicolor, WHERE NO VULTURES FLY, a Michael Balcon production, directed by Harry Watt with Leslie Norman as associate producer. Dinah Sheridan and Harold Warrender co-star. Below: Joan Collins and Cecil Parker in the current production, ONE SINNER, directed by Basil Dearden with Michael Relph as associate producer. The cast also includes Celia Johnson, Harry Fowler, Godfrey Tearle and George Relph. Left: HIS EXCELLENCY, showing Cecil Parker, Helen Cherry, Eric Portman and Susan Stephen. Robert Hamer directed and Michael Truman was associate producer. Serge Reggiani Audrey Hepburn and Valentina Cortesa in a tense moment from SECRET PEOPLE. It was directed by Thorold Dickinson and produced by Sidney Cole

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LAURELS FOR EALING

FROM "JOSH" BILLINGS

The "Kine." Review Editor

IT gives me great pleasure to add my small voice to the chorus of good wishes to Ealing studios on its 21st anniversary. I am one of the very few who have seen every picture released by that enterprising and tremendously keen British unft. Watching the growth of the firm from a ringside seat has been most illuminating and profitable. I well remember the first night of "Escape," featuring Gerald Du Maurier, quite an event this, and recall all too vividly the blunder I and many others who should have known better made over the first Gracie Fields opus. How we underestimated the genius and the popularity of that great artist!

But the early Ealing successes, and there were many including the best of the Formby series, did not have "personality." They could have been produced in any studio. It is only since Sir Michael Balcon, then and still affectionately known as Mickey, joined the company in 1938 that Ealing pictures acquired clear and distinguishing brush-marks. Every competent film critic, like the art connoisseur, can immediately recognise a first-class artist's and studio's style, and the Ealing technique is unmistakable, though its subjects are shrewdly varied.

During and immediately after the war Michael Balcon devoted much of his time to building up a first-class team—his backroom boys are brilliant—and securing the best equipment. He was also one of the pioneers of the semi-documentary approach. "Convoy," "San Demetrio, London," are examples. Then evolved pure Ealing. "Hue and Cry," "It Always Rains on Sundays," "Passport to Pimlico," "Scott of the Antarctic," "Kind Hearts and Coronets," "The Blue Lamp" and "The Lavender Hill Mob" are golden testimony to Michael Balcon's vision, integrity, perception, drive and business acumen. He has fostered stars, like Jack Warner and Alec Guinness, but wisely puts his faith in in the balanced comedy and drama. Having the right men around you is important, but it is even more essential to have the right man at the helm and Ealing is most fortunate in this respect. Reginald Baker, the managing director, made no mistake when he invited Michael Balcon to take over the key production job. May this triumphant combination of finance and showmanship continue to hold sway at Ealing and provide many more fine films, wholly British in conception, atmosphere and subject and, of course, infallible box-office.

They're Funny That Way

Ealing scriptwriter, T. E. B. CLARKE, decides that humour is geographical and unpredictable.

PERSONALLY, I know of only one approach to comedy; trying to make myself laugh.

I have met specialists in comedy—writers, directors and performers—who are able to convulse audiences without seeing anything at all funny in their own jokes. The ability to regard one's work with such complete objectivity is something I have never acquired. I rather doubt if I ever shall acquire it. Any laugh that I create is inevitably an echo of my own original inward chuckle.

Not that I imagine I have an "average sense of humour"—because I am fully aware that there is no such thing. Although, I am glad to find, people *do* seem to laugh quite often at the sort of things which amuse me, there are times at previews when I find myself sitting baffled in a wilderness of silence.

I laughed when, some years ago, I saw my nine-year-old son dating a letter "Thursday, 1947." I put this confidently into the script of "The Magnet." It has never raised a titter yet.

On the other hand, there is an incident in "The Lavender Hill Mob" when a professional crook, wishing to get something from a house which is being visited by a policeman, urges his amateur partner to fulfil the task for him—"because it might be somebody I know."

To me this was just a utility line, devised to get the other character into the house, and nobody could have been more surprised when it got one of the biggest laughs in the film.

One is usually compensated for one's misfires by unexpected laughs of that kind: for the people who have paid to see a comedy are—bless them!—*ready* to be amused.

Recently in a London street I saw an angry woman smack a recalcitrant dog, which so infuriated a passing animal-lover that he smacked the woman. At least a dozen people saw the incident, but none of them laughed. Put the same incident on the screen and all those straight-faced people would chortle.

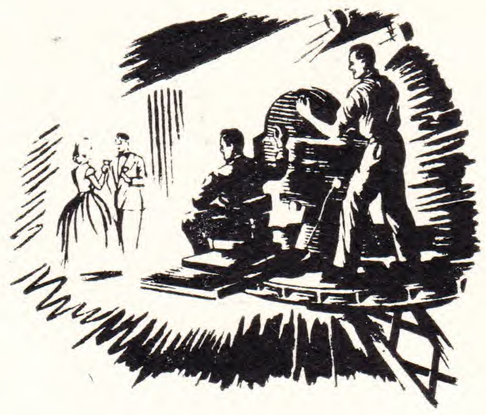
Or would they? Perhaps this was an example of the "geographical" laugh: one which operates only in certain areas. The "geographical" laugh is something that defies all attempts to theorise on comedy. So far as my experience goes, it is utterly inexplicable.

In "Hue and Cry" we had a scene in which, without comment, some nefarious characters were shown painting a greyhound. I saw this film in four different towns. The scene was received at Slough in complete silence; it raised the roof in the West End of London: it won a minor laugh in Redhill; and it produced just a few isolated giggles in Leeds.

If laughter can vary to that extent in one country, how can a writer of comedy sit down at his desk on a bleak winter's morning and set out to amuse the world? This writer asks for nothing more than a thought capable of parting his own chapped lips.

Stanley Holloway and Alec Guinness in THE LAVENDER HILL MOB, one of T. E. B. Clarke's most amusing scripts.

Wherever films are *made*...



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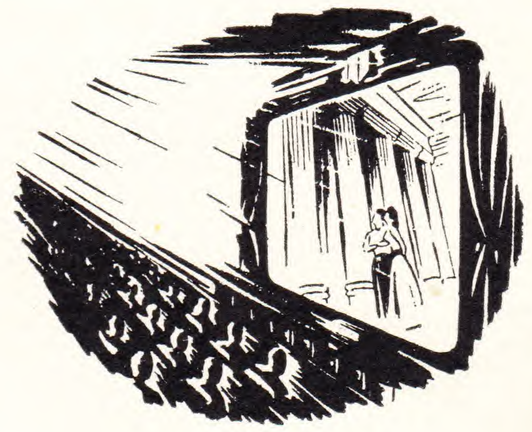

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The Stars That Tell

by JACK WARNER

. . .who is seen here with Gladys Henson in THE BLUE LAMP

Ealing has a tradition, one that is known and respected by almost every British film artist. Ealing has discovered and made stars: and some of the greatest artists, many of them from the stage, have gone to Ealing to make films. Jack Warner writes an appreciation on their behalf, and pays tribute to the studio. His story is proof that Ealing indeed has the stars that tell at the box-office.

THAT cheerful phrase, "a happy ship," fits Ealing Studios snugly as far as players are concerned. Quite a number of us who appear regularly in British films have done some of our best work in Ealing films. And some of us wouldn't be where we are today in the eyes of the paying public if it had not been for Ealing. I wouldn't myself.

"The Captive Heart" gave me my first real start in pictures. When I read the part of Corporal Horsfall I knew this was something I had to do. And before I say any more I would like to pay a grateful tribute to Sir Michael Balcon for the kindly help and advice he has given me from time to time over the past few years.

What other studio at that time would have chosen Jack Warner for the serious rôle of a prisoner-of-war?

"Hue and Cry" came next, and again it was Sir Michael who gave me the chance of playing the rôle of the sinister black marketeer in this highly successful Ealing production. I feel that but for him I would have been labelled as a Cockney soldier for ever.

Instead of which I have portrayed a different character in all of the 16 pictures I have been in during the last five years, with the exception, of course, of the Huggett family series.

Another Ealing picture which did a great deal for me as a screen actor was "It Always Rains on Sunday." It made me a detective—a character I've played in various forms since—but once more it gave me a real person to play, a person entirely unconnected with the Cockney or the impressionist of the radio.

A very important point that these films had in common was story value. All three were interesting, off the beaten track and firmly related to real life.

To the studios they were part of an overall policy, the policy of creating and using credible characters, so down-to-earth many of them that they could be recognised by kinemagoers as people like themselves, and using them in stories that might at times be fanciful but which always had something worth saying.

It is not only a joy to an actor to appear in pictures as imaginatively conceived and cleverly scripted as these, but it is a tonic to his career. You don't need much publicity when you're playing in this kind of picture—the pictures speak for themselves and they make your performance speak for you.

I am sure my companions in "It Always Rains on Sunday," for instance, would agree with me. John McCullum and Googie Withers, I know, felt they had never had to play parts previously that offered them such scope as those they had in this film.

Susan Shaw, I know, has reason to bless Ealing. She was tested for the part of the good girl in this picture, but made such an impression that she eventually landed the rôle of the bad one and gave a first-rate performance that put her right on top of the up-and-coming youngsters.

Talking of youngsters, two who are very popular today got their first major chances in "Hue and Cry." Joan Dowling and Harry Fowler were strictly teen-agers then, but the eagle eyes of the Ealing casting people detected their possibilities and the Ealing team gave them the chances of their young lives in that memorable picture.

Two stars from Ealing who made the trip to the CEA conference at Bournemouth this year. Googie Withers and John McCullum

Alec Guinness came from the stage and was an immediate success in Ealing films. Joan Greenwood and he were together in THE MAN IN THE WHITE SUIT

I know Dirk Bogarde shared my feelings about Ealing when he started work in "The Blue Lamp"; and he went on to give what was, to my mind, the best performance of his career. I think I can say, with due modesty, that I didn't do so badly in that picture either. At any rate, it brought me a host of new friends, especially among the boys in blue.

Then, of course, no mention of Ealing from the performer's point of view could possibly omit the case of Alec Guinness. Remember how brilliantly the Ealing team followed up Alec's success as Fagin in Cineguild's "Oliver Twist"?

They immediately starred him in "Kind Hearts and Coronets," a picture that called for him to assume eight different characters. That was not only good casting but good showmanship. The move clinched Alec's popularity and led directly to "The Lavender Hill Mob" and "The Man in the White Suit." Definitely, Guinness has a great deal to thank Ealing for.

Dennis Price, too, would probably agree that it was an Ealing story that drew from him his best performance. The film, of course, was "Kind Hearts and Coronets," once again, and it gave Dennis a chance to show his delicate sense of comedy.

I could multiply these examples, but those I have given are sufficient to show that working at Ealing can—and usually does—have a salutary effect upon a player's work and very often his whole future.

You feel stimulated to do your best because you cannot fail to be infected with the team spirit that exists there. You have the feeling that everything possible has been done before you take to the floor. The script has been thoroughly worked out, the casting done with real imagination and the production schedule planned in detail. The set-up is right, and that gives an actor all the confidence he needs to pull out that little something extra.

One feels, too, that the pictures are being made in a business-like and economical way. But when you see the team of Sir Michael and Major Baker in action this is not difficult to understand.

Those of you who have read this tribute must realise by now that I look upon Ealing as my second home. I am very proud of the fact that I am a vice-president of the sports club and that I have a host of friends there in every department.

I know they won't mind if I mention just one more Ealing name, that of Basil Dearden, who directed me in "The Captive Heart" and "The Blue Lamp." I shall be ever grateful to him for those two milestones in my film career.

How can I finish? By hoping that it won't be long before I am back "home" again, making more pictures at the "Green."

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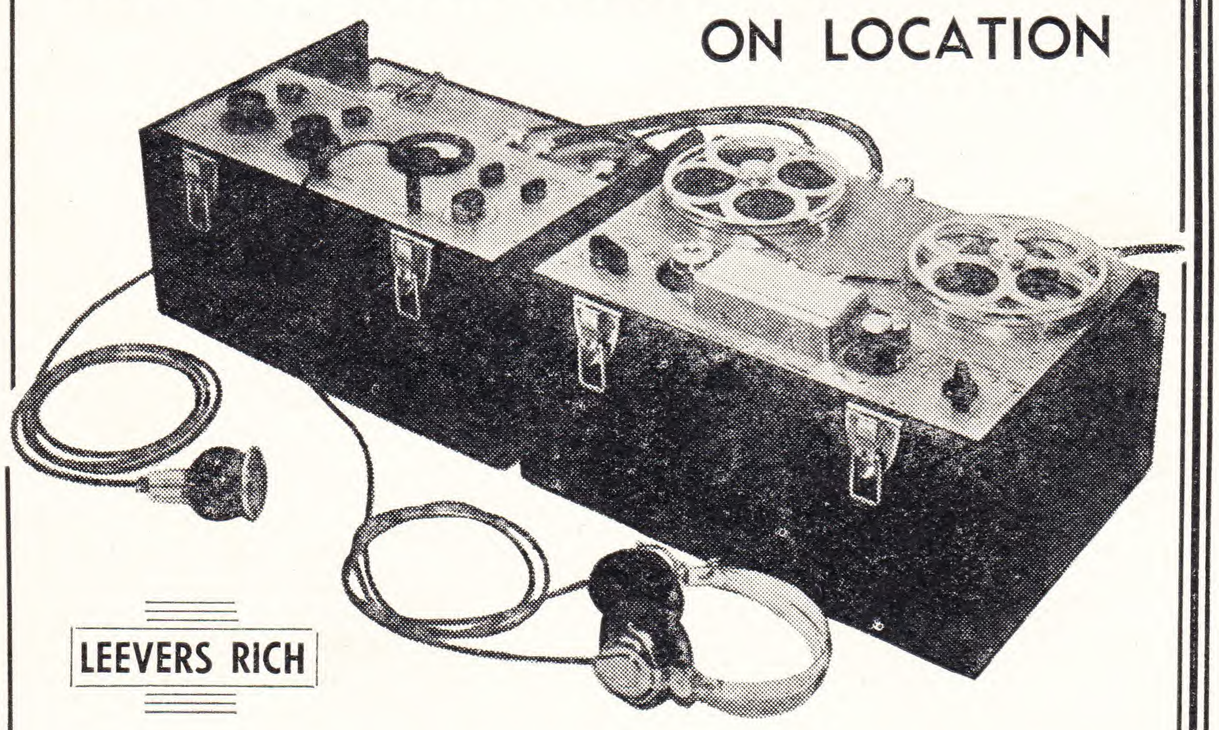

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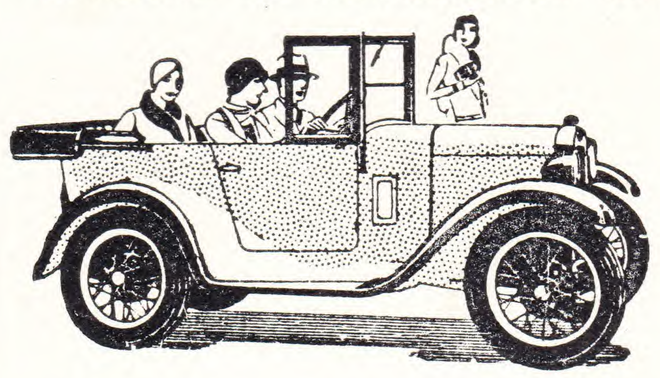

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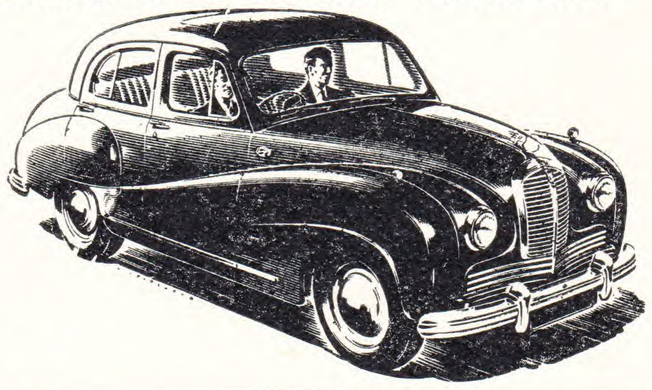

The Men of Yesterday Are Here Today

THERE is hardly a single department at Ealing where the visitor will not meet at least one employee who has been at the studio ever since production started there 21 years ago. It is a handsome indication of the happy atmosphere and the security of employment that have emerged from the studio's policy of providing continuous screen entertainment through the years.

Below is a group of those who have worked at Ealing since 1931 or earlier:—Front row, l. to r.: S. Turner, carpenter; J. Seaholme, camera operator; F. Lacey, production buyer; George Speller, construction manager; M. Horridge, canteen; W. Hill, master painter; F. A. G. Giles, chief buyer; A. Parker, electrician. Second row, l. to r.: R. Purchase, painter; E. Diamond, assistant master carpenter; F. Richardson, property maker; F. Lane, carpenter; H. Aves, carpenter; C. Rye, carpenter; F. Hook, carpenter; J. Mean, rigger; H. Davey, chief electrical maintenance. Back row: l. to r.: W. Dowling, carpenter; J. Pearce, stagehand; A. S. Carn, buyer; J. Harris, electrician; G. Dawson, power-house engineer; F. Newton, electrician; A. Spurgeon, electrician. With similar length of service but not in the picture are: Albert Elkins, grips; J. Sheddon, chargehand carpenter; Richard Banting, Charles Simonds and J. Chapman, electricians.

THE NEW WORLD, OLD FRIENDS

Ealing was among the first production companies to realise the value of the American market. Picture on the right shows Reginald Baker, with Stephen Courtauld, signing an agreement for U.S distribution through the Grand National, represented by Edward Alperson, while Basil Dean looks on.

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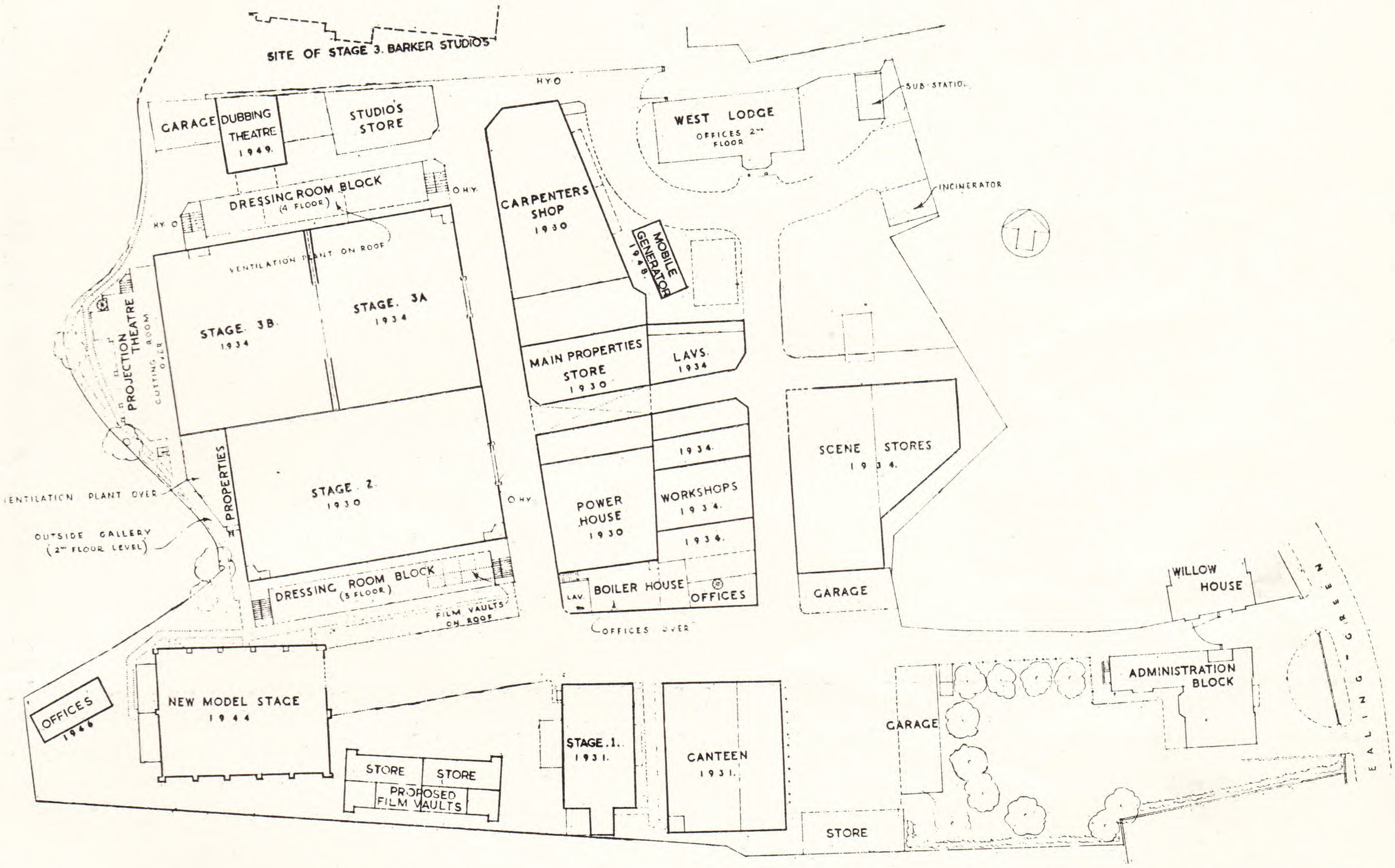
ARCHITECT'S EYE VIEW OF EALING



Architects: Robert Atkinson, A. F. B. Anderson, 13, *Manchester Square, W.*1.

THESE FACTS AND FIGURES SIZE UP THE STUDIOS

No. of stages : Five

Stage 1	58 ft. × 34 ft.	= 1,972 sq. ft.
Stage 2	126 ft. × 76 ft.	= 9,576 sq. ft.
Stage 3A	85 ft. × 71 ft.	= 6,035 sq. ft.
Stage 3B	85 ft. × 71 ft.	= 6,035 sq. ft.
Model Stage	79 ft. × 61 ft.	= 4,819 sq. ft.

Total stage area in sq. ft. 28,437 sq. ft.

Studio area : 3¾ acres.

Number of personnel : Craftsmen and manual workers—155.
Technical and Administrative—271.

Output of Power House : Diesel Ruston Hornsby Plant.
7,500 amps. at 230/110 volts to the floor by 3-wire system. DC.
200 amps. at 415/230 volts. diesel generator. AC.
DC/AC alternator—175 amps. at 415/230 volts

Electrical equipment : Mole-Richardson 225 amp. "Brutes," 150 amp. and 120 amp. HI arcs; 5 kw., 2 kw. and 500 w. incandescents. GEC 2½ kw. compact light source and 150 amp. HI double negative lamps.

Camera equipment :
4 Standard Mitchell cameras.
3 Mitchell NC cameras.
1 Newman-Sinclair model "E" camera.
1 Filmo camera 70 DA.
1 Arriflex camera.
1 16-mm. Cine Kodak special.
Stereopticon machine.
Teague and Simplex back projection equipment.

Sound equipment :

RCA
2—200 mil. push pull recording channels—one mounted in mobile truck.
1—76 mil. standard channel.
1—8-way re-recording console with twin compression racks.
RCA type 10,001 uni-directional microphones for dialogue recording.
RCA type 144 ribbon microphones for music recording.

GAUMONT-KALEE
2—recording channels complete with type 493 cardioid uni-directional microphones for dialogue recording and type 172 ribbon microphones for music recording.

MAGNETIC
1—Leevers-Rich synchronous tape magnetic recorder for location use.

Mobile Location equipment : Paxman generator mounted on Atkinson 8-wheel lorry, comprising 400 h.p. Paxman diesel engine, giving over 2,000 amps. at 115 volts. DC.
Guy lorry giving 20 kw., DC.
Caterpillar diesel electric trailer giving 30 kw., DC.
2½ KVA petrol electric generator, AC, mounted on trailer.
2 mobile canteens fitted with Calor gas cookers.
3 location Jeeps.
Special mobile studio equipment including sound-proofing, projection equipment, etc.

Recording & Dubbing Theatre : Ross projectors.
RCA sound, including 8-push pull/standard dubbing heads.

Preview Theatres: Three—one suitable for recording.

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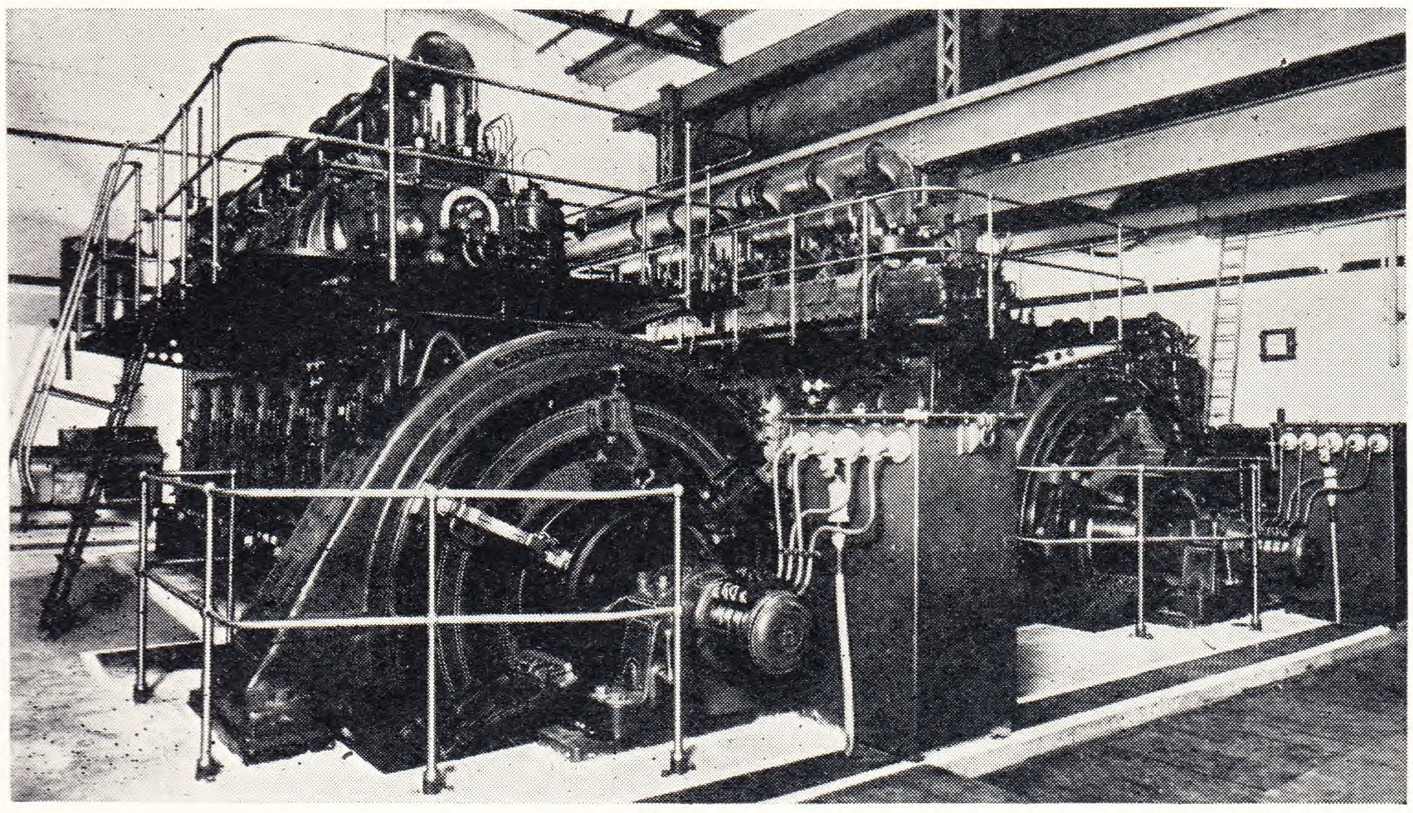


In the power house at Ealing, showing the GEC generators that supply the studio's

Equipment Behind Ealing Creation

PARALLEL with the growth of the Ealing tradition has been the progressive growth of the accommodation there and the development of the technical facilities.

The original plans of the stages were drawn up by A. F. B. Anderson, a partner in Messrs. Robert Atkinson in 1930. These plans were for one stage 135 ft. by 85 ft. (now known as Stage 2), together with dressing-rooms, offices, cutting-rooms and theatre adjoining, a power-house, workshops, property rooms and the normal studio service departments. These were completed in 1931.

The original power plant comprised two Ruston and Hornsby diesel engines, each of 600 h.p., driving generators which, together, gave an output of 7,500 amps. on a 3-wire system. In addition, there was a 400-h.p. Ruston and Hornsby engine driving an alternator for AC power for the workshops, etc. The original lighting was quite comprehensive and was probably the most up to date at that time.

It comprised: 40 Kandem 2kw inky spots; 10 Kandem 80 amp. arcs with facet mirrors; 8 Kandem Sun Light arcs, 150 amps. with parabolic mirrors; 24 BT-H 2kw spots with parabolic mirrors; 8 Mole-Richardson 2-light broadside lamps; 8 12-light overhead banks; 6 6-light overhead banks; 6 GEC 2kw spots.

In 1934, two additional stages were added, each 85 ft. by 73 ft., now known as stages 3a and 3b. These stages are adjoining, with a large opening between, so that they can be used together to form one large stage.

First Large Crane

At the same time, the Ealing Corporation supply mains were considerably extended so that electricity could be supplied in bulk to the studios, supplementary to the company's plant, for stand-by purposes. A rotary converter was installed giving an output of 480 amps. During the same year, the first large camera crane in the country was specially built for Ealing by the firm of Ski-Hi. During the next few years, high-intensity arcs were introduced and the cutting rooms extended.

The plant was able to deal with all requirements for black-and-white photography, but had to be further extended in 1947 when the first Technicolor production was embarked upon.

It was decided not to instal additional generating plant in the power-house, but to instal it on a mobile truck so that it could be available for outside use where a large amount of electric power was required. Thus, when production returned to black-and-white photography, this plant would not be redundant.

The large mobile generator, the largest in the world engaged in film work, was then assembled by the studios' technicians, comprising an Atkinson 8-wheel diesel truck upon which was mounted a Siemen's DC generator (output 2,300 amps. 3-wire with rotary balancer), powered by a 400-h.p. Paxman 12-cylinder diesel engine. This was completed just in time for the company's first Technicolor production, "Saraband for Dead Lovers."

Other power plant was purchased for use on the mobile studio unit, on locations which were inaccessible for the large Paxman mobile generator, for example, on the Island of Barra for "Whisky Galore." This comprised a Guy searchlight lorry with a 24kw output and a caterpillar 30kw output diesel generator on a trailer.

The present lighting equipment of the studio is far more extensive, comprising two of the new Mole-Richardson "Brute" lamps, and no fewer than 37 HI arcs, the latter being by Mole-Richardson and by GEC. Many other Mole-Richardson lights have been introduced and also, for backings, extensive use has been made of the GEC $2\frac{1}{2}$-kw compact light source lamp.

Beating the Blackout

In 1944, owing to the difficulty of night shooting during wartime, very extensive use was made of model work and model shots, and the large brick-built model stage was erected.

The next substantial addition to the premises was the new re-recording theatre and recording rooms, which were built on the site of an old tubular scaffolding store in 1949. This theatre is sited so that the projection-box, which is on a bridge joining on to the main studio, is readily accessible from the cutting-rooms and cutting-room theatres.

The initial cameras used were Mitchell, and the studio has standards of this make, now possessing three model NCs and four Standard Mitchells. Additional cameras, acquired during the past three or four years, include a Newman Sinclair with lens turret, an Arriflex and a Cine Kodak Special for 16-mm work. The latter was used for obtaining certain spectacular shots on "No Vultures Fly"—these, of course, will be "blown-up" to 35-mm.

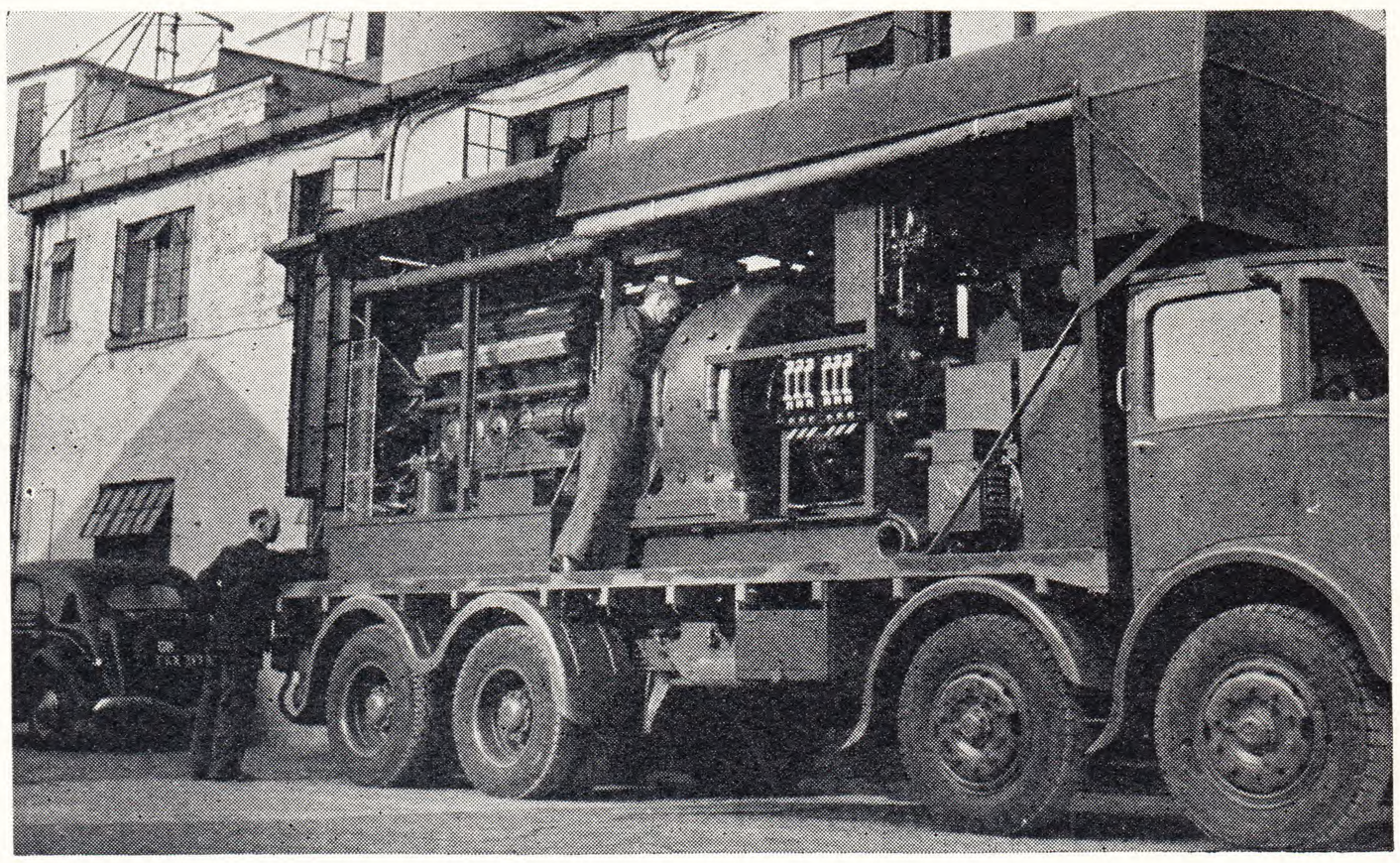
Full details of the sound facilities at the Ealing Studios are contained in an article on page 29.

Ealing claims to be the first British studio in which power for stage lighting was provided by diesel-electric sets.

The mobile studio unit is a speciality at Ealing. This enables "interior" alternatives to be available in an improvised studio, close to a location which is to be used for several weeks.

The Pye radio telephone system is used for keeping in constant touch with a film unit shooting exteriors in the London area.

The Spelleroller device for moving large sections of sets about the stages—and which is now in use at many studios—was devised by George Speller, Ealing's construction manager.



This, the largest mobile generator in the world, has been of great value on location

We are glad of this opportunity of congratulating Messrs. Ealing Studios Ltd., on their 21st Anniversary. We trust that our long association with the Studio (dating back to 1902), will continue to be as pleasant for as many more years to come.

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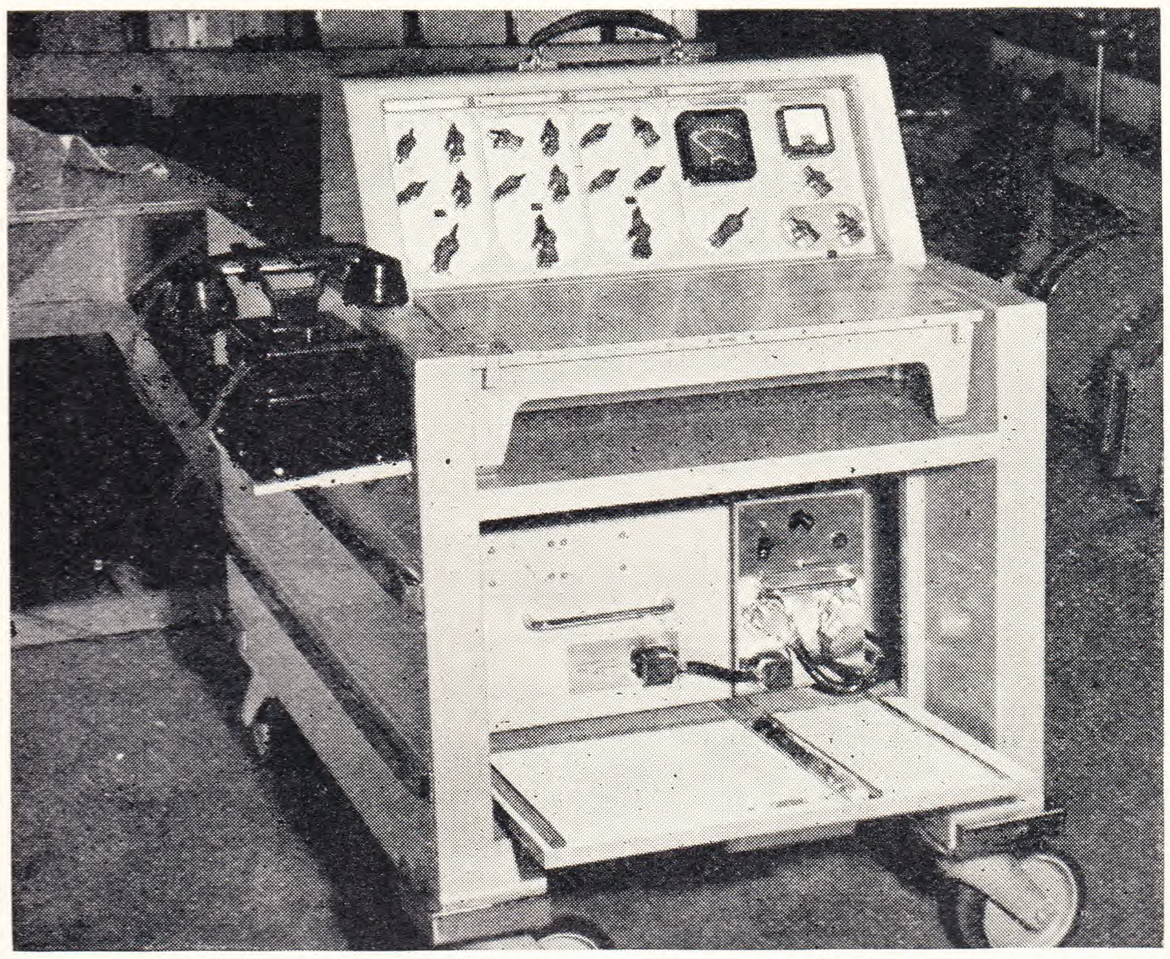
A Review by R. Howard Cricks, FBKS, FRPS



British Acoustic mixer

RCA re-recording console and patch bay

New GB-Kalee Optical Unit for Recording

EALING is the only studio equipped for recording on either or both of two systems—three, if one includes a magnetic channel used chiefly for location work. The two systems are British Acoustic and RCA, while a Leevers-Rich magnetic tape recorder has been found of great value in recent productions. The RCA equipment is fully described in an adjacent article.

The equipment is in the charge of Stephen Dalby, who last week showed me the developments since my previous visit, shortly after the British Acoustic equipment, supplied by GB-Kalee, was installed.

All connections from the various stages terminate in an RCA patching panel. This permits any stage to be connected to either channel or to both—a film primarily recorded on RCA may have a BA negative simultaneously recorded for certain territories, and vice versa. The patching rack also includes HT and LT supplies for the RCA equipment.

In adjoining rooms are mounted the various units of the two channels. In the first room is installed a pedestal-mounted Gaumont-Kalee "Ferrosonic" recorder and reproducer, together with its amplifier stack.

The recorder, handling of course 35-mm. perforated film, is of the newly developed type, in which the magnet heads make contact with the inner surface of the film as it passes round a drum. This system, it is claimed, ensures better contact and a higher standard of recording.

The amplifier stack comprises first a play-back amplifier feeding into a 500-ohm line; next an equaliser unit, fitted with special LF pre-emphasis to suit the characteristics of magnetic film; main amplifier and compressor, identical with those used in the photographic channel; the supply unit for the supersonic bias and erase current, DC bias, and an automatic switching system from tape monitoring to the signal line; and a standard power supply unit.

In the next room is a PM 50 RCA recorder.

Next comes the British Acoustic film recording camera. This includes a newly developed optical unit of high light efficiency, with means for checking adjustments in four directions: the image in the actual optical unit, the image on the face of the film for focus, the image on the rear of the film for positioning (for which a graticule is built in), and a magnified image of the lamp filament for detecting sag. Another useful feature is that the phase of the noise-reduction bias may be reversed to facilitate setting up.

The amplifier stack comprises an equaliser unit; a compressor and noise-reduction amplifier; the main amplifier; and power pack. The compressor provides three ratios of

Continued on page 31

RCA Sound Truck Records 200-mil Push-pull Track

FEW British studios could have experienced such an advance in their sound recording equipment over the years as the Ealing studios.

Twenty-one years of improvement, from the oil-damped galvanometers and white light recordings of 1930, to the 200-mil push-pull sound tracks with ultra-violet recording, and the most up-to-date galvanometers of 1951.

Two years ago extensive reinstallation of the studio sound system was undertaken by RCA and at the same time much new equipment was added.

Five stages have been wired for sound and all the lines are taken back to a central patch bay in the new sound block which houses the static recording channels, power equipment and re-recording theatre, and has an adjoining garage for the sound truck.

This truck is a newly installed vehicle, carrying a completely rebuilt and modernised recording channel with a PR-23 type of recorder specially modified to record 200-mil push-pull variable area tracks. The increased signal output obtained from these improves still further the sound tracks used for re-recording.

The truck power equipment is of the type now generally used on RCA sound vehicles and enables recordings to be carried out either from 220-volt or 415-volt mains or from a battery-driven generator.

There are two static channels. The PM-50, which is normally used for floor shooting, is the most modern RCA photographic recording channel. Among its many features are pull-out types of amplifiers for easy servicing and a ready means of adjusting the volume compression to any desired value.

The MI-10306X recorder is constructed almost wholly of magnesium alloy and incorporates a tight loop film path, together with a magnetic drive and a 200-mil push-pull optical system, so that sound tracks made on this machine match with those recorded on the sound truck.

The re-recording channel, used with the re-recording console, is a modernised equipment and designed to make either standard or push-pull sound tracks of the normal gauge, that is, 76 mils.

All channels, including the truck, the re-recording console and all stages are connected to the central patch bay, where any cross connections can be made of both the audio lines, power supplies and signal circuits.

The RCA re-recording console mixes up to eight tracks and applies compensation as required on all tracks.

Background suppression, a means of automatically controlling background music and effects by a dialogue track to any desired amount, is a feature of the equipment. A special patch bay behind the console enables circuit arrangements to be made to suit the needs of the moment.

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TWO SOUND SYSTEMS

From Page 29

compression, 1½ : 1, 2 : 1, and for excessive volume ranges 6 : 1, the "break point" (the point in the volume range where compression starts) being variable. A de-esser prevents sibilants being strengthened by compression.

A feature of all amplifiers is their extreme accessibility. Both front and rear panels are removable, the former for replacing valves, the latter for access to all circuits.

The mixer console has not been substantially changed since the original models. It provides for three-channel input. In each channel there are three gain controls covering respectively the low, mid and high frequencies, and also a switch for remote control of the characteristics of a cardioid microphone, to give pressure, velocity or cardioid directivity. In addition to the normal volume control, a gain adjustment gives a choice of −20 db. or +10 db., so extending the range of intensities.

The console also includes a built-in oscillator, giving frequencies of 400, 1,000 and 5,000 c/s, and an intercommunication microphone which overrides the signals on the recording line. LT and HT units are housed in the base of the console, the HT accurately stabilised at 150 volts.

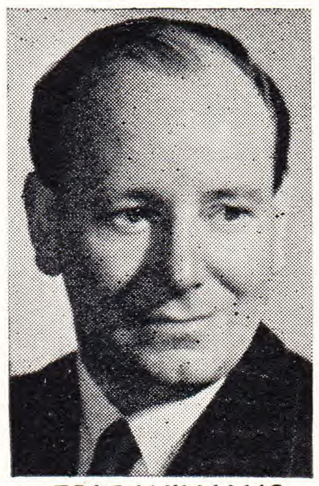
Disc recording is used only for play-back. The recorder consists of a Parmeko fitted with MSS recording head. A three-phase drive ensures synchronous speed, although not actually interlock.

In the same room is kept the Leevers-Rich magnetic tape recorder. This was first used in Africa on "No Vultures Fly," on which it proved invaluable. Tests made with a Mitchell battery-driven camera demonstrated that the pulse-synchronising system was satisfactory, but in point of fact, for most work the accuracy of speed of the tape has proved adequate for sync. without interlocking.

In the dubbing theatre is the RCA console, comprising an eight-way mixer, and circuits providing a wide range of frequency control.

The projection room overlooking the theatre is in charge of F. Peters. The equipment here comprises Ross projectors with RCA clover-leaf heads, Stelmar arcs and Pyrene fire control systems. In an alcove behind the projectors are six RCA dubbing heads. Five of these heads provide for 200-mil tracks, while the remaining three heads (including those on the projectors) accommodate 76-mil push-pull tracks. The sound heads are connected through transformers to the console.

In addition to the permanently installed equipment, mobile channels for both British Acoustic and RCA are fitted in trucks. The former, in a Speedwagon, is identical with the static channel, except that the mixer is removed from its trolley and mounted on a table. Two motor-generators supply respectively three-phase for recorder and camera, and single-phase for normal power supplies.



ERIC WILLIAMS

BUILDING UP "DOWN UNDER" IS NO EASY JOB

Australian Experiment Still Goes Forward

ENGLISH visitors to Sydney often stop to look with puzzled expressions at the sign which informs them that the compact building on the outskirts of the city is Ealing Studios.

They are a long way from the London suburb of Ealing—but there, right at the other end of the world, is a piece of England, as much a part of the British film industry as the studio in London.

The pioneering spirit has always been strong at Ealing Studios, and it was this spirit which spurred the company into expanding its activities to Australia. The plans were laid some years before "The Overlanders" went into production and the success of that picture fully justified the new venture.

The old Pagewood Studios, in Sydney, considered to be the best in Australia, but closed down since the war, were purchased. After being temporarily re-equipped for the filming of interior scenes on "The Overlanders," they were refitted completely.

Key technicians were sent to Australia, with the idea of training Australian personnel. Ealing's managing director, Major R. P. Baker, paid a personal visit to obtain first-hand information. Eric Williams, who had been chief engineer and sound supervisor at Ealing, went out as general manager and production supervisor.

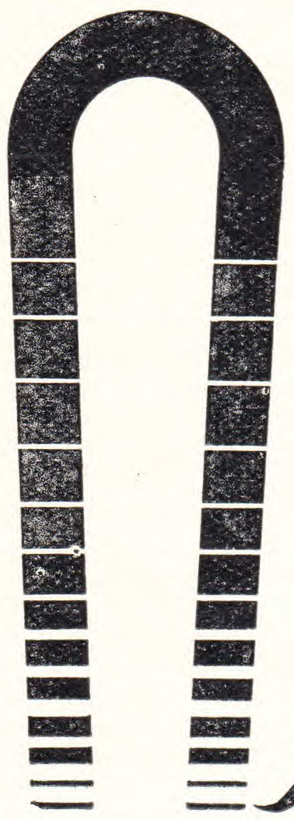
Explaining these plans, Sir Michael Balcon said: "We feel that we are doing our bit towards the expansion of the Australian film industry; but we also hope that it will expand beyond the production plans of this one company alone. We are not going to make general subjects there—those can be made at home. Although we have purchased studios, our primary aim is to produce films out of doors—in other words, against natural backgrounds. Australia is a vast country, so far untapped as motion picture material."

Ealing's initiative has acted as a spur to production "down under." Many other excellent films have been made there since "The Overlanders," and, though it may be true that all the initial hopes that Ealing's aid would provide the groundwork for a flourishing native industry have yet to be fulfilled, there is little doubt that pictures produced in Australia have attracted considerable attention.

Ealing itself has since made "Eureka Stockade" and "Bitter Springs," and studio space has been used by many companies at Pagewood. While British stars have gone out there to appear in these films—among them Tommy Trinder, Gordon Jackson and Jane Barrett—opportunities have been given to Australian players, many of whom have received their first screen opportunities through Ealing's enterprise, just as technicians have received training and experience.

The Australian experiment is not completed. The Sydney studio is fully geared, and plans for further Ealing productions there are expected to be announced in the near future.

Chips Rafferty, an Ealing "discovery," in a scene from THE OVERLANDERS



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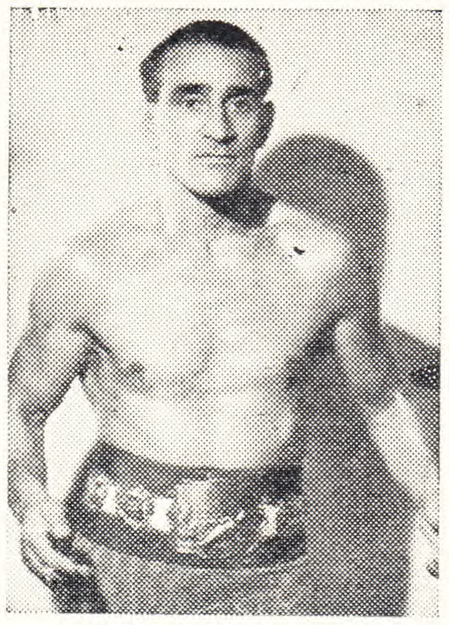

MICKY WOOD—*Principal*

★

JOHN WADHAM—*Tech. Director*

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View of the main sound stages at Ealing, with workshops on the right

These Also Help to Shape the Ealing Style

Below are details of work done and facilities and equipment provided by some of the many firms who contribute behind the scenes to the making of an Ealing picture.

ASK the average production manager whether he would prefer to know in advance exactly how much it will cost to dress a picture or whether he would prefer to add up a collection of accounts after shooting has been completed —and the answer is almost certain to be, "Quote me an all-in figure for complete service in advance."

That is just the kind of service that **Berman's** has developed during recent years: and the service which Ealing has used on most of its productions. The company, established in 1884, has provided the costumes for more than 50 Ealing feature productions.

In this respect Monty Berman and Tony Mendelssohn, Ealing designer, have developed an association which enables both organisations to work as a team. And, from the studio point of view, being able to take a complete service at a figure agreed in advance has been a valuable method of economy.

Costume pictures, musicals, modern dramas and fantasy have all had to be serviced. The recent "The Man in the White Suit" production set a real problem—how to make a white suit which would disintegrate on touch. Well, Berman's solved that problem with the cunning use of large sheets of multi-layer tissue paper material which is used in the pharmacy business.

It was not so long ago that many hundreds of uniforms had to be sent to Australia for "Eureka Stockade."

A more frequent problem is the matching of modern suits from stock for pictures in which the artists play character types and must look as though they have been wearing the clothes for years. It is easy to make up new costumes to fit period costumes, but not so easy to do the former.

Incidentally, Berman's has the contract for dressing the Empire, Leicester Square, stage show, which, being changed every three weeks, has recently involved Berman's in making the five thousandth costume in two years!

Some of the staff of 65 are well ahead on work for the new MGM-British subject, "Hour of Thirteen."

* * *

Ealing Studios possesses what is probably the largest mobile generating equipment in the country. Mounted on a heavy eight-wheeled lorry chassis is a generator driven by a 400-h.p. Paxman diesel engine. This generator, at full load, has a capacity of no less than 260 kW., which is generated at a pressure of 230 volts direct current.

The generator is of the three-wire type, with separate rotary balancer for supplying 115 volts for flood lighting equipment. The complete generating set, with all necessary control gear, was supplied by the **Britannia Manufacturing Co.**, also responsible for supplying and installing in the engine room at Ealing a motor alternator set of 120 kVA, 3-phase, 415 volts, 50 cycles capacity driven by a direct current motor of 160 h.p. at 230 volts. With this motor alternator set was also supplied the necessary control equipment, including on the output side automatic voltage regulation which controls the voltage within very fine limits.

This automatic voltage regulation proved so successful that similar control equipment has since been supplied for an existing alternator.

* * *

Costumes were supplied by **Court and Theatrical Costumiers,** established in 1790, for Gracie Fields and other artists for productions in 1934-36, also for a very large Chetnik production during the first year of the war.

Since then it has supplied costumes and wigs for "The Lavender Hill Mob," "The Blue Lamp," "Kind Hearts and Coronets," and "Here Comes the Sun."

* * *

M. Harris and Sons has known Ealing Studios since the beginning.

Continued on page 34

THESE ALSO HELP TO SHAPE THE EALING STYLE—continued

The company has continuously supplied Ealing with much of the antique furniture and furnishings used on the sets.

* * *

The **J.M.B. Hire Company** has had many years of business with Ealing.

In its capacity as supplier of electrical fittings for the decoration of the sets it is the production buyer with whom the company has direct contact.

* * *

Location sequences shot in their natural settings have been a feature of many of the successful Ealing pictures in recent years. Various methods have been tried in the past, but in order to get sound recording of the highest production quality it has usually been necessary to use a full-size sound van containing either a photographic or a magnetic recording system, together with the 3-phase power source for running the cameras in synchronism.

A new sound recording system, which is portable and yet may be interlocked with cameras, was first shown to the trade at the BKS exhibition of May, 1950, which took place at Ealing studios.

Features of the new equipment, which is manufactured by **Leevers Rich**, London, are the excellent sound quality and the ingenious pulse synchronising system (Pat. applied for).

The latter operates by means of a pulse-modulated control track alongside the speech track, and may be used in conjunction with many types of cameras, both 35-mm. and 16-mm.

The Ealing sound department was immediately interested in the great possibilities of the new system, and arranged a series of acceptance tests which duly took place the following June. The results were successful, and the first equipment was delivered that autumn in time to go out to Africa for the location sequences of "No Vultures Fly."

* * *

C. Miskin and Sons, of Romeland, St. Albans, Herts, Building and civil engineering contractor, carried out the whole of the work in connection with the Ealing Studios, in three contracts: (1) Stage and dressing-room; (2) two stages, workshop, generator house and more dressing-rooms, and (3) conversion of existing residence into an administrative block, roads, car-parks, and so on.

The company was also the contractor for the original Ideal Film Studios at Ealing and the Rock Studios at Elstree, which consisted of two stages, two theatres, still rooms, administrative block, dressing-rooms, workshops, boiler house and generator house.

* * *

The naval, military and civil outfitter, **Morris Angel and Son,** of Shaftesbury Avenue, has been associated with the studio since its early days. It has contributed to many recent Ealing films.

* * *

Old Times Furnishing Company since the inception of Ealing Studios has supplied furniture of all periods, from the earliest productions to such recent successes as "The Blue Lamp," "Pool of London," and for current production, "One Sinner."

* * *

The wide range of European and Oriental carpets, tapestries and other hangings that are to be found in the stocks of **Perez (London)** at 162-168, Brompton Road, S.W.3, has always enabled Ealing Studios to pick "just the thing" for the set for a great many years past. Perez supplied the carpets for "Saraband for Dead Lovers," "Kind Hearts and Coronets," "The Man in the White Suit," "Cage of Gold," and recently completed "His Excellency."

The connection between Ealing and Perez goes back to 1937. During this period almost every type and variety of rug has been used, from an everyday Wilton to Aubussons and Savonneries for Georgian settings, luxurious Persians for stately homes and castles, and sumptuous modern Chinese carpets of every conceivable colour and pattern.

* * *

Restall, Brown and Clennell, of 261, Tottenham Court Road, stands for fine English period furniture, and Ealing Studios has drawn on the very large and constantly changing stock of genuine English period furniture and authentic reproductions of all types, from simple cottage furniture to the finest of furniture for the stateliest of homes.

* * *

A specialised firm of amusement caterers, **Samson Novelty Company,** of Tottenham Court Road, has supplied Ealing with many types of coin machines from stock for amusement arcades, pier scenes, and so on.

* * *

B. J. Simmons and Co., the historical and theatrical costumier, has supplied period costumes for "Fiddlers Three," "Champagne Charlie," "Pink String and Sealing Wax," "Nicholas Nickleby," "Joanna Godden," "Frieda," "Saraband for Dead Lovers," and "Kind Hearts and Coronets."

In addition, the subsidiary, **Elizabeth Curzon,** has made costumes for "Secret People" and "The Man in the White Suit."

* * *

The fight scenes in many Ealing films have been staged by teams of specialist artists supplied through the **Toughguys** agency, of Fitzroy Street. "Blue Lamp" and "Pool of London" were two films, for example. The agency has riders, boxers, wrestlers, crash drivers, and a full range of gymnasium equipment, and many more services.

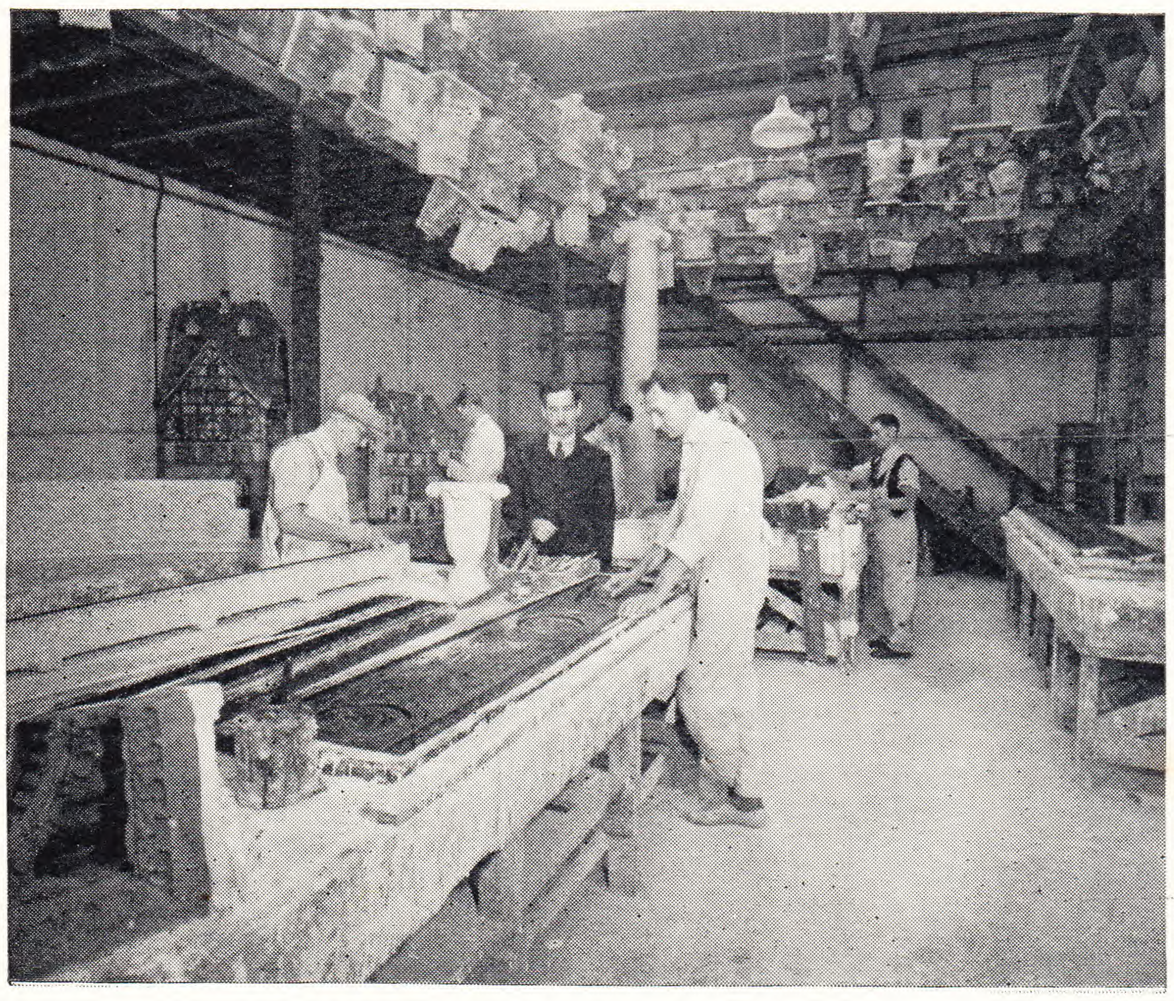
* * *

The work done by **Val De Travers,** Old Bailey, for Ealing and other film studios has mostly been of repairs to existing asphalte-covered roofs and coverings to new roofs, but on one or two occasions the company has been able to assist with some film project by way of lining out tanks for "sea" scenes.

* * *

The following firms, in addition to those already mentioned, have contributed service and facilities to Ealing Studios: **Technicolor, Ltd.,** colour film specialists; **W. Vinten, Ltd.,** studio and laboratory equipment; **Kodak, Ltd.,** film stock; **Pyrene Co., Ltd.,** fire appliances; **L. and H. Nathan, Ltd.,** costumiers; **Gillham and Jones,** electrical engineers; **Lewis and Kaye (Hire), Ltd.,** antique silver; **Ernest F. Moy, Ltd.,** designers and manufacturers of kinema equipment; **"Bullens,"** storage and shipping contractors; **Films and Equipments, Ltd.,** motion picture engineers; **Carr Bros., Garages, Ltd.**

Rex B. Hartley joins with the many friends of Ealing Studios to offer sincerest goodwishes and congratulations on their Twenty-First Anniversary



Work never stops in the plasterers' shop

Backbone of the sets is found among the carpenters

TURNING BACK THE PAGES

The Studio Scene

Reviewed by **GRAHAM CLARKE,**
"Kine." Studio Correspondent

NOT a happy year, but certainly not a hopeless one. That is a fair comment to sum up British production in 1951. Once again fewer first features were made as an inevitable result of financial stringency, the only encouraging point about this further drop in quantity being the resultant concentration of quality. Very few bad or even poor films have come out of British studios and this has been achieved in the face of an all-round tightening on individual budgets.

The most notable event of the period under review, October 1, 1950, to September 30, 1951, was the launching of the Group scheme of production under the wing of the National Film Finance Corporation; but its main effect was only just beginning to be felt by the end of the year. Group A, which operates as British Film Makers at Pinewood, has contributed four features to the total of ten made in the studio: Group B, based at ABPC, Elstree, and working under the name of the Elstree Group, completed one: John Grierson's lively young Group Three, at Southall, made three.

In spite of all this the number of completed first features has dropped to 53, while the number of second features remained roughly constant at about 25. This reduction in quantity can be directly related to the Eady scheme.

The introduction of the Group system has, to a certain extent, curtailed the activities of those producers who are normally classed as independents, many of them having accepted the financial and administrative protection of the Group "blanket." This fact falsifies any direct comparison with former years of the number of pictures made by independents. It is still interesting to note, however, that Nettlefold was again responsible for more features (first and second) than any other single studio, and that Merton Park made a spirited sally into the feature market.

Shepperton also had a productive year, with a total of nine first features, and Ealing, of course, kept up its steady record.

On the darker side are the cases of Denham, which has been idle, except for "Robin Hood" (RKO-Radio-Walt Disney), since 20th Century-Fox decided to suspend its production programme; Isleworth, which has made only one picture; and Teddington, where nothing was made during the year under review. Not counting pictures made under Anglo-American co-operation (which appears to be increasing in favour), the U.S companies contributed seven features.

Two small additions were made to London's studio facilities. SCF reopened, with added attractions the premises that were formerly the Marylebone Studios, and Studio Twenty-Two set up at Ebury Street.

In the latter part of the year a dark shadow was flung over the production field by the dispute on wages and conditions between the BFPA and the ACT, and the technicians' decision to work to rule and ban overtime. This lengthened schedules of current work and put future production plans into the melting pot, but, at the time of writing, there are signs that the Gordian Knot may be cut.

These factors combined have had their effect upon the employment situation. In round figures this month British studios were employing a total of 3,500 men and women, a very small improvement on the previous year. Of these, 900 were technical, 1,500 constructional staff, and over 1,200 were in the clerical and administrative offices. The Board of Trade employment figures for last March gave the total employed as 3,819. Any disparity between these figures and the KINE.'s statistics is accounted for by certain staff employed by independent companies and not included in the studio returns.

Prospects for 1952 may, perhaps, be regarded as a little brighter, but as much depends upon the twin supports of Eady and the NFFC as upon producers reducing budgets and shooting schedules.

STUDIO-BY-STUDIO PRODUCT OF 1951 AND TIME SCHEDULES

TITLE	DIRECTOR	STARS	PRODUCTION COMPANY	RENTER	STARTS LOCATION	ENDS LOCATION	STARTS STAGES	ENDS STAGES	TOTAL NO. OF WEEKS ON STAGE
ABPC (ELSTREE)									
†Happy Go Lovely	Bruce Humberstone	David Niven, Vera-Ellen	ABPC/Excelsior	AB-Pathe	—	—	15/5/50	7/10/50	19
Laughter in Paradise	Mario Zampi	Alastair Sim, Fay Compton	ABPC/Transocean	AB-Pathe	—	—	17/8/50	1/12/50	14
The Magic Box	John Boulting	Robert Donat	Festival	British Lion	—	—	1/1/51	12/4/51	14
Young Wives' Tale	Henry Cass	Joan Greenwood, Derek Farr	ABPC	AB-Pathe	—	—	27/10/50	18/1/51	12
Elstree Story	Gilbert Gunn	All-star,	ABPC	AB-Pathe	—	—	7/11/50	24/11/50	3
So Little Time	Compton Bennet	Marius Goring Maria Schell,	Mayflower	AB-Pathe	9/6/51	27/6/51	10/4/51	6/7/51	12
The Woman's Angle	Leslie Arliss	Edward Underdown Claude Farell,	ABPC/Bow Bells	AB-Pathe	11 days Bavaria and Greece		24/4/51	13/7/51	12
Angels One Five	George More O'Ferrall	Jack Hawkins Michael Denison	ABPC/Templar	AB-Pathe	15/5/51	7/6/51	8/6/51	8/8/51	9
Twenty-Four Hours of a Woman's Life	Victor Saville	Merle Oberon, Richard Todd	ABPC	AB-Pathe	22/8/51	29/9/51	1/10/51	—	—
†The Crimson Pirate	Robert Siodmak	Burt Lancaster, Nick Cravat.	Warner's	Warner's	6/7/51	12/10/51	15/10/51 (Including 14 days at Teddington)	23/11/51	6
†Where's Charley?	Richard Thorpe	Ray Bolger, Alyn McLerie.	Warner's	Warner's	One week at Oxford		18/7/51	7/10/51	12
DENHAM									
No Highway	Henry Koster	James Stewart, Marlene Dietrich	20th Century-Fox	20th Century-Fox	Periods on location		9/9/50	27/12/50	12
†The House in the Square	Roy Baker	Tyrone Power, Ann Blythe	20th Century-Fox	20th Century-Fox	Periods on location		1/1/51	10/5/51	14
†Robin Hood	Ken Annakin, Alex Bryce	Richard Todd, Joan Rice	Walt Disney-RKO-Radio	RKO-Radio	Periods on location		1/5/51	3/8/51	12
EALING									
The Lavender Hill Mob	Charles Crichton	Alec Guinness, Stanley Holloway	Ealing Studios	GFD	Some days in Paris		15/9/50	12/12/50	12
†Where No Vultures Fly	Harry Watt	Anthony Steel, Dinah Sheridan	Ealing Studios	GFD	1/12/50	13/3/51	—	—	—
The Man in the White Suit	Alexander Mackendrick	Alec Guinness, Joan Greenwood	Ealing Studios	GFD	Short periods at Bromley		27/12/50	21/3/51	12
Secret People	Thorold Dickinson	Valentina Cortesa, Serge Reggiani	Ealing Studios	GFD	—	—	15/3/51	24/7/51	18
His Excellency	Robert Hamer	Eric Portman, Cecil Parker	Ealing Studios	GFD	Period at Palermo		4/6/51	21/8/51	6
One Sinner	Basil Dearden	Cecil Parker, Celia Johnson	Ealing Studios	GFD	—	—	3/9/51	—	—

Continued on page 19

GREETINGS *for* 1952

EMERGENCY CALL

SCARLET THREAD

RICHARD HEARNE

MADAME LOUISE

PETULA CLARK

HAMMER THE TOFF

SALUTE THE TOFF

THERE IS ANOTHER SUN

VIRTUOSO

SOMETHING IN THE CITY

SUSAN SHAW

PAUL TEMPLE'S TRIUMPH

FOREVER AND A DAY

MAXWELL REED

LAURENCE HARVEY

HUFFLEY FAIR

THE BUTCHER-NETTLEFOLD GROUP

wish all Exhibitor Friends a very Happy Xmas and a Prosperous New Year with our continued help.

BUTCHER-NETTLEFOLD GROUP

STUDIO-BY-STUDIO PRODUCT OF 1951—*continued*

TITLE	DIRECTOR	STARS	PRODUCTION COMPANY	RENTER	STARTS LOCATION	ENDS LOCATION	STARTS STAGES	ENDS STAGES	TOTAL NO. OF WEEKS ON STAGE
EXCLUSIVE (AT BRAY)									
Cloudburst	Francis Searle	Robert Preston, Elizabeth Sellars	Exclusive /Lippert	Exclusive	—	—	8/ 1/51	15/ 2/51	6
A Case for P.C. 49	Francis Searle	Brian Reece, Joy Shelton	Exclusive	Exclusive	—	—	17/ 2/51	16/ 3/51	5
Death of an Angel	Charles Saunders	Patrick Barr, Jean Lodge	Exclusive /Lesser	Exclusive	—	—	2/ 4/51	27/ 4/51	4
Wnispering Smith Hits London	Francis Searle	Richard Carlson, Greta Gynt	Exclusive/Lesser	Exclusive	—	—	14/ 5/51	21/ 6/51	5
The Last Page	Terence Fisher	George Brent, Marguerite Chapman	Exclusive/Lippert	Exclusive	—	—	9/ 7/51	16/ 8/51	5
GATE									
Mr. Lord Says, "No!"	Muriel Box	Kathleen Harrison, Stanley Holloway	Independent Producers	—	16/ 7/51	21/ 7/51	23/ 7/51	23/ 8/51	5
ISLEWORTH									
Circle of Danger	Jacques Tournier	Ray Milland, Patricia Roc	Coronado	RKO-Radio	24/ 8/50	15/ 9/50	18/ 9/50	3/11/50	7
MANCHESTER									
Never Look Back	Francis Searle	Rosamund John, Hugh Sinclair	Exclusive (James Brennan)	Exclusive	—	—	17/ 9/51	26/10/51	6
MERTON PARK									
Assassin for Hire	Michael McCarthy	Sydney Tafler, Ronald Howard	Merton Park Studios	Anglo-Amalgamated	—	—	13/11/50	1/12/50	4
Mystery Junction	Michael McCarthy	Sydney Tafler, Barbara Murray	Merton Park Studios	Anglo-Amalgamated	—	—	28 /3/51	18 /4/51	3
Sing Along with Me	Peter Graham Scott	Donald Peers	H.H. Films	British Lion	—	—	2/ 7/51	3/ 8/51	4
Crow Hollow	Michael McCarthy	Dodo Watts Donald Houston, Natasha Parry	Merton Park Studios	Eros	—	—	15/ 8/51	5/ 9/51	4
Gathering Storm	Richard Vernon	Laurence Harvey, Susan Shaw	Leontine Entertainments	Eros	20/ 8/51	18/ 9/51	Shot almost entirely on location		—
MGM-BRITISH (ELSTREE)									
†Ivanhoe	Richard Thorpe	Robert Taylor, Elizabeth Taylor	MGM	MGM	—	—	2/ 7/51	20/ 9/51	12
Hour of Thirteen	Harold French	Peter Lawford, Dawn Addams	MGM	MGM	—	—	10/ 9/51	—	—
NETTLEFOLD									
Four Days	John Guillermin	Hugh McDermott	Vandyke	Grand National	9/10/51	13/10/51	25/ 9/51	6/10/51	2
There is Another Sun	Lewis Gilbert	Susan Shaw, Maxwell Reed	Nettlefold	Butcher's	—	—	23/10/50	1/12/50	9
Hell is Sold Out	Michael Anderson	Mai Zetterling, Richard Attenborough	Raymond Stross	Eros	—	—	30/10/50	23/12/50	8
A Tale of Five Cities	Montgomery Tully	Bonar Colleano	Grand National	Grand National	Location in Europe		1/ 1/51	12/ 1/51	2
Madame Louise	Maclean Rogers	Barbara Kelly Richard Hearn, Garry Marsh	Nettlefold	Butcher's	—	—	12/ 2/51	23/ 3/51	6
Another Man's Poison	Irving Rapper	Bette Davis, Gary Merrill	Daniel M. Angel	Eros	9/ 4/51	—	9/ 4/51	13/ 6/51	10
Song of Paris	John Guillermin	Anne Vernon, Dennis Price	Vandyke	Adelphi	9/ 7/51	16/ 7/51	17/ 7/15	16/ 8/51	5
Scrooge	Brian Desmond Hurst	Alastair Sim, Mervyn Johns	Renown	Renown	—	—	21/ 5/51	18/ 7/51	8
†Saturday Island	Stuart Heisler	Linda Darnell Tab Hunter	Coronado	RKO-Radio	Location in West Indies		26/ 6/51	4/10/51	4
Salute the Toff	Maclean Rogers	John Bentley, Carol Marsh	Nettlefold	Butcher's	—	—	23/ 7/51	15/ 8/51	4
Hammer the Toff	Maclean Rogers	John Bentley	Nettlefold	Butcher's	—	—	23/ 7/51	15/ 8/51	4
The Tall Headlines	Terence Young	Patricia Dainton Mai Zetterling Michael Denison	Raymond Stross	Grand National	6/ 9/51	20/ 9/51	25/ 8/51	25/10/51	8
PINEWOOD									
Night Without Stars	Anthony Pelissier	David Farrar, Nadia Gray	Hugh Stewart	GFD	—	—	20/ 9/50	5/12/50	11
The Browning Version	Anthony Asquith	Michael Redgrave, Jean Kent	Javelin	GFD	5/ 9/50	12/ 9/50	13/ 9/50	17/11/50	11
Hotel Sahara	Ken Annakin	Yvonne De Carlo Peter Ustinov	Tower	GFD	—	—	1/ 1/51	6/ 3/51	9
White Corridors	Pat Jackson	Googie Withers James Donald	Vic Film	GFD	30/ 1/51	1/ 2/51	11/12/50	26/ 1/51	7
Valley of Eagles	Terence Young	Jack Warner Nadia Gray	Independent Sovereign	GFD	22/ 1/51	14/ 3/51	15/ 3/51	11/ 4/51	4
Appointment with Venus	Ralph Thomas	David Niven, Glynis Johns	Betty E. Box	GFD	2/ 4/51	23/ 4/51	30/ 4/51	21/ 6/51	8
High Treason	Roy Boulting	Liam Redmond, Andre Morell	Paul Soskin	GFD	23/ 1/51 and 3/ 5/51	23/ 2/51 1/ 6/51	26/ 2/51	2/ 5/51	9
Encore	Hugh French, Pat Jackson, Anthony Pelissier	Glynis Johns Nigel Patrick	Two Cities /Paramount	GFD	23/ 4/51 and 21/5/51	3/ 5/51 25/ 5/51	28/ 5/51	23/ 8/51	12
Hunted	Charles Crichton	Dirk Bogarde Kay Walsh	Independent Artists	GFD	9/ 7/51 and 20/9/51	10/ 8/51 28/ 9/51	13/ 8/51	19/10/51	5
The Card	Ronald Neame, John Bryan	Alec Guinness, Glynis Johns	Ronald Neame	GFD	20/ 8/51 3/ 9/51 17/ 9/51	2/ 9/51 14/ 9/51 24/ 9/51	25/ 9/51	25/11/51	9
RIVERSIDE									
Worm's Eye View	Jack Raymond	Ronald Shiner, Garry Marsh	Byron (1950)	ABFD	26/11/50	30/11/50	1/10/50	23/11/50	8
Home to Danger	Terence Fisher	Guy Rolfe, Rona Anderson	New World	Eros	—	—	5/ 2/51	23/ 2/51	4
The Frightened Man	John Gilling	Dermot Walsh, Barbara Murray	Tempean	Eros	—	—	26/ 2/51	16/ 3/51	4
13 East Street	Robert Baker	Patric Holt, Sandra Dorne	Tempean	Eros	—	—	21/ 5/51	1/ 6/51	4
Reluctant Heroes	Jack Raymond	Ronald Shiner, Derek Farr	Byron (1950)	ABFD	—	—	4/ 6/51	6/ 7/51	5
Dead on Course	Terence Fisher	Zachary Scott, Robert Beatty	Exclusive/Lippert	Exclusive	9/ 9/51	14/ 9/51	15/ 9/51	15/10/51	5

Continued on page 21

Christmas Greetings

and a

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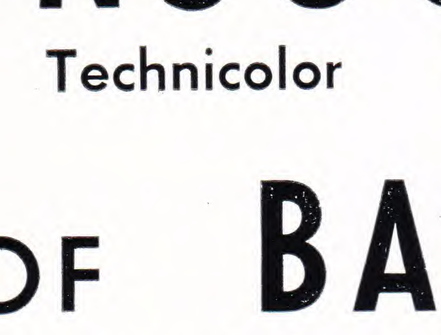

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STUDIO-BY-STUDIO PRODUCT OF 1951—*continued*

TITLE	DIRECTOR	STARS	PRODUCTION COMPANY	RENTER	STARTS LOCATION	ENDS LOCATION	STARTS STAGES	ENDS STAGES	TOTAL NO OF WEEKS ON STAGE
SHEPPERTON									
Cry the Beloved Country	Zoltan Korda	Canada Lee, Sidney Poitier	London Films	British Lion	31/ 7/50	6/11/50	14/11/50	21/12/50	5
An Outcast of the Islands	Carol Reed	Ralph Richardson, Trevor Howard	Carol Reed	British Lion	10/11/50	19/ 1/51	22/ 1/51	17/ 4/51	16
The Lady With a Lamp	Herbert Wilcox	Anna Neagle, Michael Wilding	Imperadio	British Lion	4/ 6/51	6/ 7/51	2/ 4/51	30/ 5/51	8
Lady Godiva Rides Again	Frank Launder	Dennis Price, John McCalleron	Launder-Gilliatt	British Lion	23/ 4/51	10/ 5/51	15/ 5/51	19/ 7/51	9
Mr. Denning Drives North	Anthony Kimmins	John Mills,... Phyllis Calvert	Anthony Kimmins	British Lion	—	—	28/ 5/51	1/ 8/51	9
The African Queen	John Huston	Humphrey Bogart, Katharine Hepburn	Romulus	Independent	1/ 6/51	16/ 7/51	17/ 7/51 (partly at Isleworth)	28/ 8/51	6
H.M.S. Gift Horse	Jay Lewis	Trevor Howard, ...	Molton	Independent	Periods on location		13/ 8/51 (partly at Isleworth)	28/ 9/51	7
Derby Day	Compton Bennett Herbert Wilcox	James Donald Anna Neagle, Michael Wilding	Imperadio	British Lion	—	—	20/ 8/51	16/10/51	8
The Sound Barrier	David Lean	Ralph Richardson, Nigel Patrick	David Lean	British Lion	8/ 7/51	20/ 8/51	21/ 8/51	—	—
SOUTHALL									
Cheer the Brave	Kenneth Hume	Elsie Randolph, Jack McNaughton	SWH	Apex	—	—	2/11/51	15/12/51	4
Judgment Deferred	John Baxter	Hugh Sinclair, Helen Shingler	Group 3	ABFD	—	—	4/ 6/51	27/ 7/51	8
Brandy For the Parson	John Eldredge	James Donald, Jean Lodge	Group 3	ABFD	28/ 7/51	18/ 8/51	9/ 8/51	20/ 8/51	2
Nothing to Lose	Lewis Gilbert	Eddie Byrne, Hermione Baddeley	Group 3	ABFD	Location in Essex		17/ 9/51	19/10/51	5
TWICKENHAM									
Behold the Man	Walter Rilla	——	Film Reports	—	—	—	19/ 3/51	22/ 3/51	1
VIKING									
The Armchair Detective	Brendan Stafford	Ernest Dudley	Meridian	Apex	—	—	11/ 6/51	22/ 6/51	2
Night Was Our Friend	Michael Anderson	Elizabeth Sellars, Michael Gough	ACT Films	Monarch	—	—	3/ 9/51	28/ 9/51	4

† Indicates colour film.

Wishing all my friends in the Industry the Compliments of the Season, and expressing my sincere appreciation of their co-operation throughout 1951. May the New Year bring to them considerable Happiness & Prosperity.

Raymond Stross

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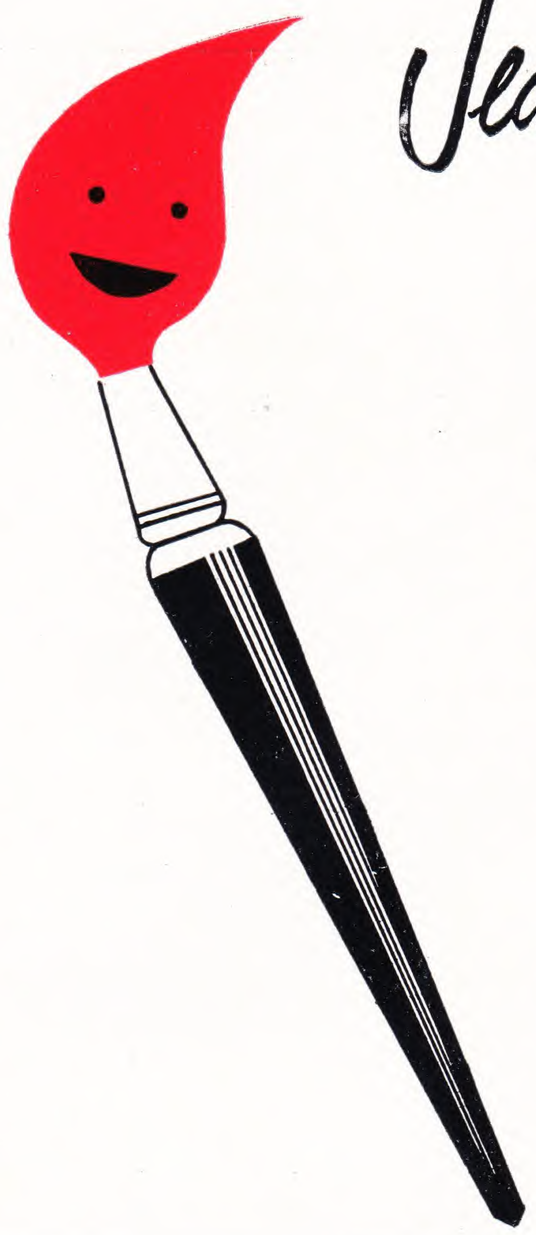
BRITISH MOVIETONE NEWS

BRITISH STUDIOS—THEIR SPACE AND PERSONNEL RECORD

STUDIO.	NO. OF STAGES.	SIZE OF STAGES.	EMPLOYMENT.	MARCH, 1949.	DEC., 1949.	MARCH, 1950.	DEC., 1950.	MARCH, 1951.	DEC., 1951.
ABPC (ELSTREE)... ... (Elstree 1600)	4	(1) 100 ft. × 150 ft. = 15,000 sq. ft. (2) 100 ft. × 150 ft. = 15,000 sq. ft. (3) 100 ft. × 150 ft. = 15,000 sq. ft. (4) 100 ft. × 150 ft. = 15,000 sq. ft. **Total : 60,000 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... **Total : ... ...**	81 231 132 **444**	138 308 175 **621**	112 298 197 **607**	112 298 197 **607**	121 304 175 **600**	125 309 193 **627**
BEACONSFIELD ... ... (Beaconsfield 555)	1	115 ft. × 55 ft. **Total : 6,325 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... **Total : ... ...**	89 85 30 **204**	7 80 30 **117**	71 30 30 **131**	71 30 30 **131**	63 28 28 **119**	N.A. N.A. N.A. **N.A.**
BRIGHTON ... ... (Brighton 4477)	2	(1) 60 ft. × 40 ft. = 2,400 sq. ft. (2) 75 ft. × 40 ft. = 3,000 sq. ft. **Total : 5,400 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... **Total : ... ...**	N.A. — — —	N.A. — — —	N.A. — — —	N.A. — — —	N.A. — — —	N.A. — — —
BUSHEY ... ... (Bushey Heath 1621)	1	60 ft. × 40 ft. **Total : 2,400 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... **Total : ... ...**	3 6 3 **12**	— — — **6S**	— — — **68**	— — — **68**	— — — **68**	N.A. N.A. N.A. **68**
CARLTON HILL ... ... (Maida Vale 1141)	2	(1) 36 ft. × 24 ft. = 864 sq. ft. (2) 18 ft. × 24 ft. = 432 sq. ft. **Total : 1,296 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... **Total : ... ...**	8 8 4 **20**	8 8 4 **20**	4 4 4 **12**	4 4 4 **12**	4 4 4 **12**	4 4 4 **12**
DENHAM ... ... (Denham 2345)	7	(1), (2) & (3) 116 ft. × 77 ft. = 8,392 sq. ft. (4), (5) 244 ft. × 114 ft. = 27,816 sq. ft. (6) 114 ft. × 115 ft. = 12,995 sq. ft. (7) 129 ft. × 115 ft. = 14,825 sq. ft. **Total : 110,248 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... **Total : ... ...**	135 492 148 **775**	24 291 148 **463**	24 85 56 **165**	24 85 56 **165**	25 264 130 **419**	33 42 59 **134**
EALING ... ... (Ealing 6761)	5	(1) 58 ft. × 34 ft. = 1,972 sq. ft. (2) 126 ft. × 76 ft. = 9,576 sq. ft. (3A) 85 ft. × 71 ft. = 6,035 sq. ft. (3B) 85 ft. × 71 ft. = 6,035 sq. ft. Model Stage 79 ft. × 61 ft. = 4,819 sq. ft. **Total : 28,437 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... **Total : ... ...**	120 187 150 **457**	112 172 144 **428**	116 176 148 **440**	116 176 148 **440**	116 176 148 **440**	116 176 148 **440**
GATE (ELSTREE) ... (Elstree 2080)	2	126 ft. × 80 ft. = 10,080 sq. ft. 30 ft. × 45 ft. = 1,350 sq. ft. **Total : 11,430 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... **Total : ... ...**	20 62 11 **93**	20 63 8 **91**	20 22 8 **50**	20 22 8 **50**	20 22 8 **50**	20 22 8 **50**
ISLEWORTH ... ... (Hounslow 2323)	3	(1) 127 ft. × 83 ft. = 10,541 sq. ft. (2) 127 ft. × 42 ft. = 5,334 sq. ft. (3) 96 ft. × 44 ft. = 4,224 sq. ft. **Total : 20,099 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... **Total : ... ...**	L — — —	14 145 67 **226**	5 98 49 **152**	5 98 49 **152**	3 4 18 **25**	N.A. — — —
MANCHESTER ... ... (Rusholme 4025)	2	(1) 100 ft. × 55 ft. Widening to 80 ft. = 6,750 sq. ft. approx. (2) 50 ft. × 40 ft. = 2,000 sq. ft. **Total : 8,750 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... **Total : ... ...**	9 14 5 **28**	9 14 5 **28**	N.A. — — —	N.O. — — —	N.O. — — —	N.A. — — —
MERTON PARK	2	(1) 72 ft. × 66 ft. = 4,752 sq. ft. (2) (L-shaped) 42 ft. × 17 ft. with 18 ft. × 17 ft. annex. = 1,020 sq. ft. **Total : 5,772 sq. ft.**	 **Total : ... ...**	— — — —	— — — —	— — — —	— — — —	45 28 25 **98**	N.A. — — —
MGM—BRITISH ... (Elstree 2000)	7	A (1) 11,520 sq. ft. C (4) 11,520 sq. ft. (2) 7,100 sq. ft. (5) 7,100 sq. ft. B (3) 18,820 sq. ft. D (6) 11,500 sq. ft. (7) 6,000 sq. ft. **Total : 73,560 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... **Total : ... ...**	103 195 344 **642**	151 167 227 **545**	87 113 216 **416**	87 113 216 **416**	112 164 163 **439**	112 89 163 **364**
NATIONAL ... ... (Elstree 1644)	4	C, D = 80 ft. × 112 ft. = 8,960 sq. ft. B = 36 ft. × 61 ft. = 2,196 sq. ft. E = 80 ft. × 168 ft. = 13,440 sq. ft. **Total : 33,556 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... **Total : ... ...**	N.A. — 16 **16**	N.A. — 51 **51**	N.A. — 51 **51**	N.A. — 66 **66**	N.O. — 66 **66**	N.O. — 66 **66**
NETTLEFOLD ... ... (Walton-on-Thames 2414)	3	(A) 120 ft. × 85 ft. = 10,200 sq. ft. (With tank) (B) 82 ft. × 52 ft. = 4,264 sq. ft. (C) 110 ft. × 60 ft. = 6,600 sq. ft. **Total : 21,064 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... **Total : ... ...**	14 78 38 **130**	15 82 41 **138**	14 124 19 **157**	16 115 27 **158**	15 76 23 **114**	15 76 23 **114**
PINEWOOD ... ... (Iver 700)	5	(1), (2) & (3) 165 ft. × 110 ft. = 18,150 sq. ft. (4), (5) 110 ft. × 82 ft. = 9,020 sq. ft. **Total : 72,490 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... **Total : ... ...**	86 531 79 **696**	28 403 140 **571**	25 499 96 **620**	25 499 96 **620**	117 479 195 **791**	189 338 237 **764**
RIVERSIDE ... ... (Riverside 3012)	2	(1) 105 ft. × 75 ft. = 7,875 sq. ft. (2) 80 ft. × 60 ft. = 4,800 sq. ft. **Total : 12,675 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... **Total : ... ...**	— — — **398**	14 — 41 **55**	16 35 21 **72**	14 N.A. 21 **35**	9 27 23 **59**	N.A. — — —
S.C.F. ... ... (Ambassador 1881)	2	50 ft. × 23 ft. = 1,150 sq. ft. 50 ft. × 23 ft. = 1,150 sq. ft. **Total : 2,300 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... **Total : ... ...**	11 9 3 **23**	N.O. — — —	N.O. — — —	N.O. — — —	N.A. — — —	N.A. — — —
SHEPPERTON ... ... (Chertsey 2211)	5	(1), (2) 150 ft. × 120 ft. = 18,000 sq. ft. (3), (4) 100 ft. × 120 ft. = 12,000 sq. ft. Silent Stage 250 ft. × 120 ft. = 30,000 sq. ft. Recording stage 100 ft. × 90 ft. = 9,000 sq. ft. **Total: 90,000 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... **Total : ... ...**	160 L 395 269 **824**	165 269 251 **685**	119 190 140 **449**	119 190 140 **449**	124 153 217 **494**	N.A. — — —
SOUTHALL ... ... (Southall 3281)	1	125 ft. × 60 ft. **Total : 7,500 sq. ft.**	Technical ... ... Construction ... ... Clerical and others ... **Total : ... ...**	N.A. — — —	— — 15 **15**	6 23 12 **41**	2 N.A. 2 **4**	2 13 6 **21**	2 — 2 **4**

Continued on page 27



Seasons Greetings

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Christmas and New Year Greetings

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APEX

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PRODUCTION PROSPECTS OF 1952

Show Some Confidence and Much Uncertainty

SEEKING news of the prospects in the studios for 1952, the KINE. asked nearly 70 production companies for their plans. The answers show that the great majority have nothing definite in view.

Among those that have not yet formulated a programme are the NFFC "Group" companies at Pinewood and ABPC, Elstree, and the Associated British production unit itself. Ealing, Group 3 and some independents, however, have confident plans.

Group 3, at Southall, will start the New Year with a picture based on the Knochshinnock mining disaster. It will be directed by Phil Leacock from a script by Montague Slater. The next subject, tentatively called "Change-Over," is also an original Montague Slater script. It deals with the "Trunkers," long-distance night lorry-drivers. Paul Rotha will be concerned with this production. Work is progressing on the final stages of an original story by Reed de Rouen, called "Windfall," which is a topical satire. Peter Blackmore, who collaborated on the script of "Nothing to Lose" (made at Southall last October), is working on an adaptation of "The Oracle," a story by Robert Barr, who is well known on television. It deals with the impact of absolute truth on a national newspaper. For "I Remember, I Remember . . .," based on Maurice Sullivan's Gaelic classic, "20 Years A'Growing," a treatment has been written by Welsh poet Dylan Thomas and D. P. Taylor.

Other writers have been commissioned to develop story lines on the following themes: a horse-racing story with a boy jockey as the central character; a tale set in the Kentish hopfields, and another based on a "Lonely Hearts Convention."

The **Monarch** schedule for 1952 calls for the filming of 15 subjects and a further two stories in conjunction with ACT Films.

The plans outlined by executive producer William J. Gell are highlighted by "The Wedding of Lilli Marlene," starting immediately after Christmas. Leslie Arliss has written the story for this sequel to "Lilli Marlene." Lisa Daniely will again play the leading part, and Arthur Crabtree will direct.

William J. Gell told the KINE.: "Apart from our intention a year ago to produce an entertaining follow-up to 'Lilli Marlene,' many exhibitors have asked us to produce another. It is our intention to release the picture toward the end of March."

As "The Wedding of Lilli Marlene" comes off the floor, Monarch will start on "Hindle Wakes," which is regarded as one of the most profitable plays ever to tour the country. Its story will be streamlined and brought up to date.

Later "The Red Lamp," story of the National Fire Service by Jack Davis, will be made.

ACT Films is under contract to produce three features for Monarch. The first was "Night Was Our Friend," and the company will make a start early in January on "The Garden City," about a suburban housewife who whips a lethargic local council into building more and better-designed houses. Ronnie Kinnoch is producer and Fergus McDonell will direct. Gordon Glennon wrote the story.

With the present demand for British supporting quota, Monarch is to produce 12 detective thrillers. The first will go into production early in the year.

Three productions are on **Daniel M. Angel's** schedule for 1952. First is "Elephant Walk," starring Walter Pidgeon and Douglas Fairbanks, jnr., and this is to be followed by "The Maid of the Mountains" and "Gangster's Son."

January 7 is the date set by **John E. Blakeley** for his first production at Manchester. He intends to make a series of pictures, each adapted from a successful stage comedy, and it is planned to have a programme for the whole year. First three plays on his list are "The Missing Heir," "Age of Youth" and "Off the Gold Coast." Also in the programme are "Wearing the Pants," "Love's a Luxury" and an original screen story with a musical background by BBC feature-writer and broadcaster Alan Dixon.

So far, **Herbert Wilcox** has settled definitely on two productions. "Trent's Last Case," a version of E. C. Bentley's well-known novel, is due at Shepperton in mid-February, with Michael Wilding and Margaret Lockwood starring. This will be a Wilcox-Neagle production, as will be its successor, "The Beggar's Opera," which is to be made in colour, with Herbert producing and Peter Brook directing. Both pictures will be distributed by British Lion.

In February, **Betty E. Box** will start shooting at Pinewood on "Venetian Bird," which she will be making through British Film Makers for GFD distribution. Ralph Thomas will again direct.

It has been adapted by Victor Canning from his own novel of the same name; he is the author also of "Golden Salamander." At the beginning of this month Betty Box went to Venice and Rome to prepare locations.

Anglo-Amalgamated is planning six features, most of which are to be made at Merton Park.

Included in these are: "Wide Boy," starring Sydney Tafler, from an original story by Max Rienits, author of "Assassin for Hire"; "House in the Woods," a mystery thriller by Max Munden; "Smugglers' Reach," and "Death is My Destiny." In addition there is "Strange Cargo," an unusual animal subject, running for 35 minutes, and three more four-reelers, "Holiday Island," "Palais de Danse," and "Windjammer."

Negotiations are in progress for two Anglo-American productions with American stars, the first of which is to be called "Close to the Heart."

Only film so far selected for production at **MGM (British), Elstree**, is "Street of the Wave," which is to be made by John and Roy Boulting, with Van Johnson as the star.

Joseph Janni, of Vic Films, has three productions on his 1952 books. Very early in the New Year he will start on "Something Money Can't Buy," directed by Pat Jackson at Pinewood. This will be followed by another, to be directed by Pat, based on the book "No Language But a Cry." Janni's third production, the script of which has already been prepared, but for which he has not yet arranged a distribution contract, is a subject called "Away from it All."

Present-Day, Meridian and **Corstair** each has a picture in prospect for Apex release. "Hot Ice," produced by Charles Reynolds and directed by Kenneth Hume, will be a SWH (Piccadilly)-Present-Day production. Meridian will make "Distant Trumpet," and Corstair, "I Am a Stranger."

The brothers Roger and Nigel Proudlock, of **Vandyke**, have two first-feature productions definitely lined up. First is "Light Fingers," a comedy, to be directed by John Paddy Carstairs, which is due to go on the floor early in the New Year. This will be followed by "The Glacier Trail," an Anglo-Austrian feature.

Vandyke is also proposing to produce an experimental picture based on a multi-camera technique.

Negotiations for **Hallmark's** 1952 programme are still in progress and are not likely to be completed until the New Year. Edward Dryhurst and his associates, however, intend to make at least two, and possibly three, pictures during the year.

The plans of **Exclusive** have been in a state of flux owing to the wages dispute between the BFPA and ACT.

If the argument is settled satisfactorily the company intends to restart production on or about March 1, 1952, and will make six or seven pictures.

Maurice Cowan, of **Chiltern**, has acquired two novels, "Turn the Key Softly," John Brophy's latest best-seller, and "Marianne," by Rhys Davies. Also in the company's list are an adaptation of Stacy Aumonier's story, "Where Was Wych Street?" and "It Had to be You," an original comedy with music.

Following "The Tall Headlines," starring Mai Zetterling, Michael Denison, Jane Hylton, Dennis Price, Flora Robson, Andre Morell, Peter Burton, Mervyn Johns, Naunton Wayne, Sidney James, Celia Lipton, Barbara Blair and Hugh Dempster, which will be shown early in the New Year, **Raymond Stross** will make two, possibly three, films in Technicolor in 1952.

He intends, wherever possible, to use colour for his future productions. The first will be "The Man Who Watched the Trains Go By," from Georges Simenon's novel of the same title, starring Claude Rains, Marta Toren and Leo Genn. The film is being made for Eros for the Eastern hemisphere, and in association with Joe Schaftel Corporation for the Western hemisphere.

"The Rough Shoot," from Geoffrey Household's best-seller, will follow. Joel McCrea is coming from Hollywood to play the lead with an international woman star, not yet signed. Negotiations are in hand for another important part in the film to be played by Herbert Lom.

Only production so far definitely fixed by **Butcher's** is "Emergency Call," which Lewis Gilbert is to direct at Nettlefold.

BB

AND THIS WAS 1951's RECORD

Studio.	First features.	Second features.
DENHAM	3	—
EALING	6	—
ELSTREE (ABPC) ...	9	1
GATE, ELSTREE	1	—
ISLEWORTH ...	1	—
MANCHESTER ...	—	1
MERTON PARK ...	1	4
MGM-BRITISH ...	2	—
NETTLEFOLD ...	9	3
PINEWOOD ...	10	—
RIVERSIDE ...	2	4
SHEPPERTON ...	9	—
SOUTHALL ...	—	4
TEDDINGTON ...	—	—
TWICKENHAM ...	—	1
VIKING	—	2
	53	20
Exclusive output from country-house studios ...	—	5
	53	25

The second features made in Britain wholly on location are not included in this account of second-feature production, which refers only to studio-made films.

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Location Meals on Wheels

QUITE a familiar—and certainly a very welcome visitor to many British productions these days—is one of the largest mobile canteens in the country.

It is the kitchen-and-restaurant-combined of LEC Caterers, whose headquarters is at 16a, Loughborough Road, S.W.9. The firm is largely a one-man show, and the man in question is L. E. Camplin, assisted by his wife, Vera.

After leaving the Services in 1946 he and his wife had a GMC mobile kitchen and trailer and their experience with film locations made them increasingly conscious that something more elaborate would meet a growing need.

After months of working out details and making three models, they finally had the canteen built.

It is an articulated vehicle, the kitchen proper houses a 10 c.f refrigerator, gas operated, a fifteen-ring gas range and three ovens, four large steamer pots for keeping food hot, two counter gas rings for keeping dessert hot, a 35-gallon boiler for tea, supplied by high-pressure burners, a 20-gallon coffee and milk boiler, and a separate boiler for supplying the three sinks with hot water. All water is drawn from the 400 gallons of reserve by means of foot pumps in the floor.

Ample provision has been made for swill, etc.: waste water from the sinks is collected in a large tank slung under the chassis, and is emptied at convenient points.

The forward section, which is partitioned by a sliding door, contains a sealed cubicle with an Elsan toilet, and provision for two sleeping bunks. The floor is all metal and covered by duck-boards, easily removed for swilling out, and considerable space has been allocated to carry stores.

The canteen has three lighting circuits, one wired to take AC-DC from mains supply or 115-volt generator supply with 400 ft. of coupling cable; the second wired for battery lighting coupled up to a small lighting and generating set slung beneath the chassis, and the third, for extreme emergency Calor gas lighting.

A sliding platform which enforces an orderly, fast-moving queue at counter level has been quite a successful installation. The motor, or given its proper name, "prime-mover" is detachable, and may be used for general purposes, for instance when a production manager knows that lunch is to be at a different place to the mid-morning break, then a base is set at the lunch place and mid-morning tea is sent out on the prime-mover. Its design has allowed for travel across fields, deep-rutted cart tracks, and hilly country, 200 people can be catered for with ease, 400 if required.

Normally a roast lunch is supplied such as roast beef, baked and boiled potatoes, two vegetables, pineapples and custard, tea and coffee. Mid-morning and mid-afternoon breaks consist of rolls, sandwiches, bread and dripping, tea. The price is competitive . . . 7s. 6d. per head.

WE FIGURE IT'S A DRAW

NINETEEN FIFTY ONE was the busiest year in the history of Halas and Batchelor's cartoon studio.

In addition to the studio's stereoscopic experiments, it produced six films for the Festival of Britain, including "The Painter and Port" series. Of these, "John Gilpin," with Ronnie Searle's drawings and Cecil Trouncer's recitation of William Cowper's ballad, was presented at the Curzon, Mayfair, last August, and it is still "galloping" along in the programme. Halas and Batchelor will start production on another Ronnie Searle cartoon early in the New Year.

At the Venice Film Festival the studio was again successful this year with an award for "We've Come a Long Way," which was its 100th production. A third subject for the same company, Anglo-Iranian Oil, "Service," is to be completed by the end of January and will have simultaneous release in Italy, France, Germany and Switzerland in the spring. For the COI. "The Seven Golden Rules of Health" is now being scripted in readiness for early production.

One of the most important achievements in 1951 was the penetration of the American market through the first British cartoon film to be screened in the States. "The Magic Canvas" opened at the Park Avenue Theatre, New York, on November 12 as supporting picture to J. Arthur Rank's

Continued at top of column 4

"Clouded Yellow," and is also scheduled for the Sutton Theatre.

Arrangements have now been made for the showing in New York of "The Figurehead," although it will not be completed until early in 1952. This ten-minute cartoon is a Technicolor comedy, and a stereoscopic version is also being prepared for showing in specialised theatres.

At the moment the most important task in the studio's 1952 programme is "Animal Farm," the first full-length British film cartoon, which Halas and Batchelor is to make for Louis de Rochemont, as already announced in the KINE. John Reed, who has been connected with the Disney studio as cartoon director since 1935, has arrived from Hollywood to join the British team and will be in charge of animation. Lothar Woolf, Louis de Rochemont's personal assistant, will supervise the production. The team of artists working on the picture has been augmented to 80, all of whom are British. The musical score has been composed by Matyas Sieber.

WHERE RAYANT SHONE

Rayant Pictures, whose activities fall into two main departments—entertainment shorts and sponsored films, has had an active production year.

For 20th Century-Fox the company made nine "Spotlight" subjects and four two-reel editions of "Sports Page." Two-reel pictures were also made for GFD and AB-Pathé.

On the sponsored side it produced "Safety on the Track" for the British Transport Commission, "Spray Painting" for the Director of Naval Training, the Admiralty; and "Flight Refuelling No. 2" for Flight Refuelling.

BRITISH STUDIOS—THEIR SPACE AND PERSONNEL RECORD—contd.

STUDIO.	NO. OF STAGES.	SIZE OF STAGES.
TEDDINGTON ... ... (Kingston 2181)	2	(1) 123 ft. × 70 ft. = 8,610 sq. ft. (2) 130 ft. × 83 ft. = 10,790 sq. ft. **Total : 19,400 sq. ft.**
TWICKENHAM ... ... (Popesgrove 4451)	1	116 ft. × 62 ft. **Total : 7,192 sq. ft.**
VIKING ... ... (Western 2516)	3	40 ft. × 26 ft. = 1,040 sq. ft. 35 ft. × 26 ft. = 910 sq. ft. 26 ft. × 27 ft. = 702 sq. ft. **Total : 2,652 sq. ft.**
WINDSOR (Cursitor Street) (Chancery 8760)	2	(1) 56 ft. × 30 ft. (annexe 26 ft. × 20 ft.) 2,200 sq. ft. (2) 22 ft. × 26 ft. = 572 sq. ft. **Total : 2,772 sq. ft.**

EMPLOYMENT.	MARCH, 1949.	SEPT., 1949.	MARCH, 1950.	DEC., 1950.	MARCH, 1951.	DEC., 1951.
Technical	40	45	N.A.	N.A.	26	49
Construction	85	92	—	—	43	115
Clerical and others ...	68	82	—	—	41	75
Total :	**193**	**219**	—	—	**110**	**239**
Technical	N.O.	N.O.	—	—	—	—
Construction	—	—	—	—	—	—
Clerical and others ...	—	—	4	4	—	—
Total :	—	**48**	**4**	**4**	—	—
Technical	7	7A	N.A.	N.A.	N.A.	N.A.
Construction	12	12A	—	—	—	—
Clerical and others ...	8	8A	—	—	—	—
Total :	**27**	**27A**	—	—	—	—
Technical	4	4	N.A.	N.A.	N.A.	N.A.
Construction	5	5	—	—	—	—
Clerical and others ...	2	2	—	—	—	—
Total :	**11**	**11**	—	—	—	—

N.O. = Not operating. N.A. = Not available. A. = Approximate. L. = Figures for British Lion Studios (Shepperton and Isleworth) are amalgamated as studios and operate as one unit for purposes of employment records.

The following table indicates the staff changes during the past fifteen months at the three major production groups :

	TECHNICAL			CONSTRUCTIONAL			CLERICAL AND OTHER GRADES			TOTALS		
	December, 1950	March, 1951	December, 1951	December, 1950	March, 1951	December, 1951	December, 1950	March, 1951	December, 1951	**December, 1950**	**March, 1951**	**December, 1951**
RANK ORGANISATION : Including only Denham and Pinewood.	49	142	222	584	743	380	152	226	254	**785**	**1,210**	**898**
BRITISH LION STUDIOS : Including only Shepperton and Isleworth.	124	127	127	288	157	157	189	235	235	**601**	**519**	**519**
ASSOCIATED BRITISH : Figures relate to studio staff at Elstree only.	112	121	125	298	304	309	197	175	193	**607**	**600**	**627**

Note : December figures for British Lion Studios are approximate

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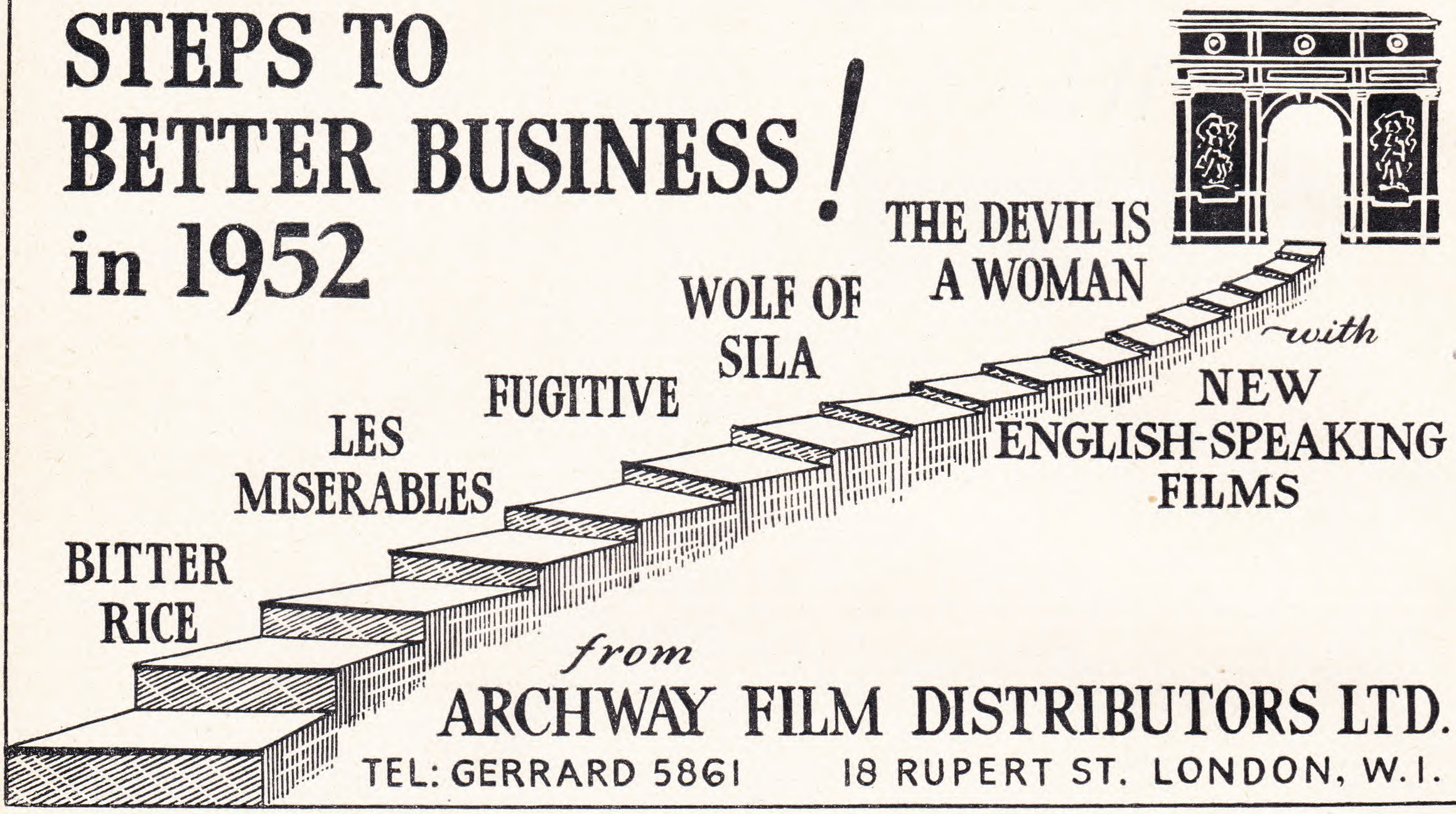

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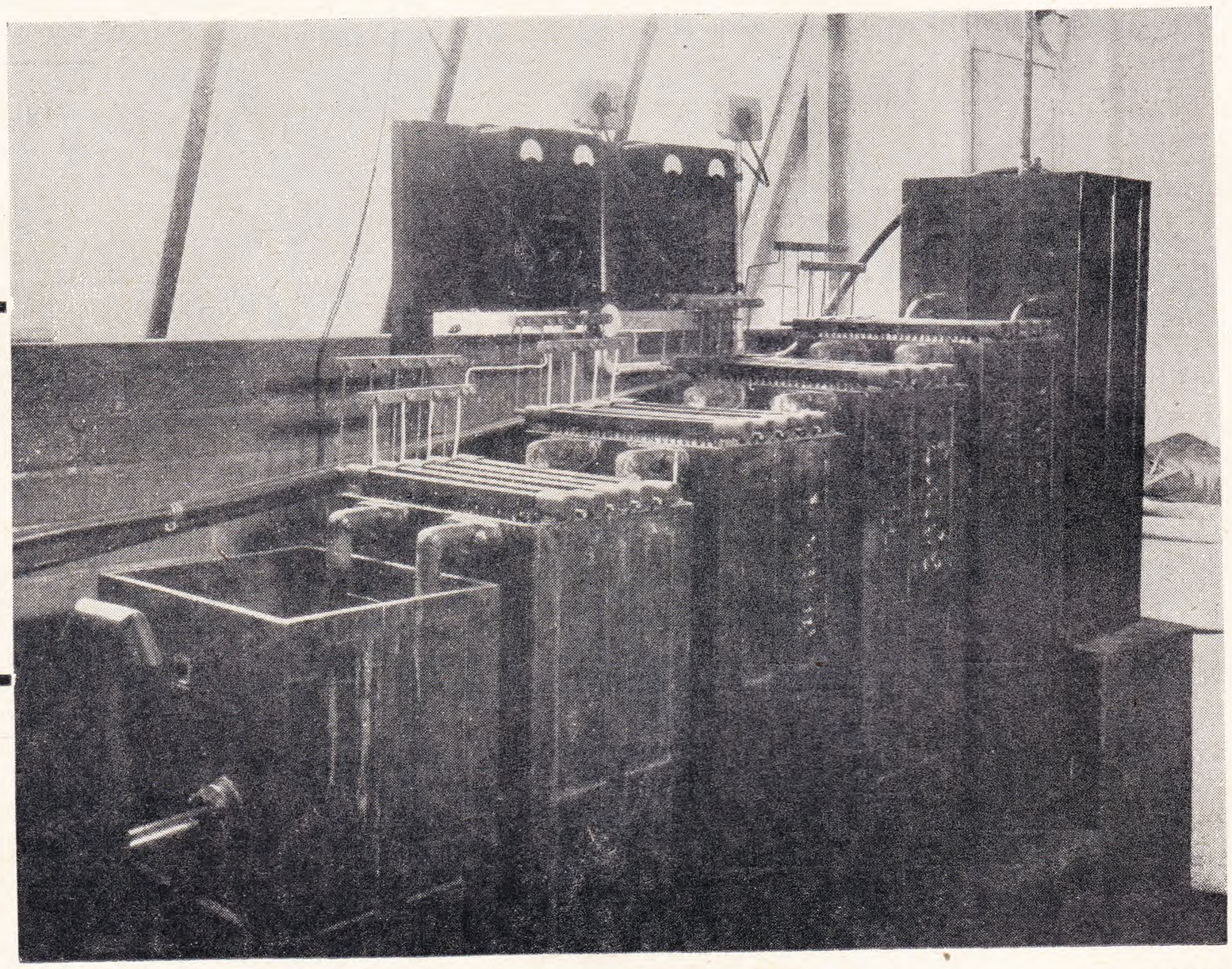

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By ROBERT CLARK, **Executive Director in Charge of Production at A B P C, Elstree**

NOW, LET ME THINK

THAT'S IT!

OF COURSE IT IS

IT might be thought that everything that could be said had been said by this time about the story side of film entertainment. But there are always new angles.

Use of the term "film entertainment" in this connection is deliberate. Our business is to provide for the film-going masses fare that will please them, and we have to keep on pleasing them week after week, year after year.

As stories (always in strict conjunction with the stars who appear in them) are the basis of this pleasure-providing, the question of finding material would seem to be a matter of ever-increasing difficulty if only from the point of view of exhaustion of the soil, as it were.

There *is* difficulty; of course there is difficulty with every studio in the world competing for what is instantly recognisable as "box-office" in the new subjects as they come along—play, novel or short story: or else in "registering" old subjects in public domain which have proved box-office in the past.

But, in my view, the situation is now beginning to become easier rather than the reverse.

It all ties up with that term "film entertainment." If you set out, as is our business, to entertain the masses you must obviously give them what they like. That, however, is no final solution. If the film business were content to give the film-going masses only what they liked, the time would come when there would be no film masses and no film business. In giving the public what it likes we have to temper that with occasional dashes of what it ought to like.

There has always been a brave pioneering spirit in the industry all over the world which is greatly to its credit, as well as its interest. Film producers have never hesitated about taking chances and risking losses in order to open up new vistas to stir the imagination of audiences.

Bravery, however, has had to be allied to caution. Progress can only be attempted step by step, otherwise you lose touch with audiences. The gap becomes too great.

To jump even one step too far ahead is to invite and meet disaster. I think back to our own experiences in the earlier days of Elstree with the first Shaw films, the first screen opera; years too soon.

Time brought changes, always for the better, in public taste so that it became possible for Shaw to be essayed again with outstanding box-office success. There came, too, films of Shakespeare like "Hamlet," daring avant garde adventures like "The Tales of Hoffmann," a film as "different" as "Cyrano de Bergerac," all still quite a jump ahead of their time, yet the gap never disastrously great.

All this is evidence, other pictures, too, that the level of public taste in entertainment—I speak, of course, of film entertainment which is my pre-occupation—has steadily risen since the years now long ago when I first came to be associated with Elstree.

THERE are many causes for the change. I specify especially the BBC which, by inculcating to the greatest number of people a sense of musical appreciation, has gradually done more to stimulate a higher cultural standard than any other medium. Radio could do so because it is not commercial. It had not to consider the profit which we must consider or go out of business.

Even so, the BBC programmes must mostly be directed to the suffrages of what is called the "ordinary man." That is our position, only more so.

Film-making, being the inevitably costly business it is, must basically content itself to keep in step with its customers and that means tried and true formulas of story plots and story telling. Story finding in this connection is a matter of deftly ringing the changes. But it is a process that could not go on indefinitely. The public itself shows readiness now to accept higher calibre film fare, and I think that trend will steadily develop. We have to study and stimulate that trend and that is why I say that the story situation becomes easier instead of more difficult. We shall be able to explore new fields of endeavour. The day is coming when Ibsen will take his place amongst the box-office "names." Shaw and Shakespeare are still deep wells to draw upon. Tckekov will render tribute. What about "Tamburlaine" and other examples of the more robust of the Elizabethan playwrights?

THE now general acceptance of kinematic devices such as "narratage" (as it was called when first used, I believe, in "Our Town") enables otherwise insoluble problems of continuity to be overcome. Jumps in time which could only be covered with plodding filling-in scenes can be dealt with in a dozen spoken words. It is possible to quote actual passages from a given novel and use them as a bridging method.

In other words, we have now regained for our medium the extreme flexibility of the days of silent film when narrative titles made so much of our work so much easier; indeed, to such an extent that it was often abused. And because of this, great novels can be adapted which would in earlier "talkie" days have defied treatment.

As I look at the prospect today, I watch the emergence of new, greater and truer stories being related on the screens of the world and for the future I envisage films of a power and depth that will leave our fairground origins at last and finally liquidated.

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Spot on

THE MEN WITH THE LIGHT IDEA

Informality is the essence of the meetings of the governing board of the British Society of Cinematographers, the organisation that guards the interests of directors of photography or lighting cameramen engaged in British feature production. By special invitation "Kine." Studio Correspondent, Graham Clarke, attended a meeting of the board and listened to the discussion. Present were Fred Young, president of the society, who was in the chair, Guy Green, Desmond Dickinson, Lovat Cave-Chinn, Derek Williams and George Gunn, with hon. secy. Bert Easey and stills cameraman Cornel Lucas, who photographed the board in session.

The meetings are held in rotation at the homes of each member of the board : this one was in the flat of Derek Williams

FIRST challenge thrown out was that, of the time spent by a production on the studio stages, by far the biggest proportion was taken up by the lighting cameraman.

Desmond Dickinson jumped straight in: "Of course he does—in fact he must, because all you have when the job is finished is a lot of photographs that he has lit. He has to move a wall, or put the camera through a wall. He has to move his lamps about; and after he has worked for 2½ hours the director comes along and, in five seconds, alters the whole action."

"I dispute the 2½ hours," interrupted Fred Young, "nowadays it would be most unusual to be allowed so long to light a set."

"We took five hours to light a set yesterday," replied Dickie, "and we are still doing four minutes a day."

Guy Green joined in to point out that the time spent in lighting was relative to what was achieved in the finished job. An extra quarter of an hour could mean a big difference in the final quality. He added: "If you beef about the time used in lighting a picture, it is like running a newspaper and complaining about the time used in setting up the type."

Fred Young thought that a good simile. Lighting cameramen had the burden of the job to do, he felt, but were never considered when the script was being written;

Which reminded Dickie of a script which required him to light "a round void." He also touched on the generally unconsidered problem of photographing actresses flatteringly.

Elaborating that point, Lovat Cave-Chinn said that, if you looked through a list of great actresses and leading women of the screen, you would find that very many of them were about 45 years of age, but that they did not necessarily play the parts of women of that age. A good deal depended on care by the cameraman.

Fred Young, however, thought that Hollywood definitely favoured having very beautiful young women and exceptionally good-looking young men in its films. On the English side, the tendency was more to glorify the actor or actress who had become good at the job, but was beginning to show signs of wear and tear; and that gave the cameraman a very difficult job, which justified extra time.

"What about colour?" suddenly interjected Dickie, and the discussion immediately went off on a different tack.

Guy Green claimed that pictures not in colour had nearly run their course. "We have seen all the tricks of black and white," he said. "and colour, particularly with this new stock, now presents us with a medium in which we can do everything that we used to do in black and white. It is a new interest to explore. Through the years we have reached our limit in black and white; now we can start again."

"Colour must come 100 per cent., surely," declared Fred Young. "In the early days of movies we tried to reproduce something that looked real and black and white was the nearest thing we had to reality, but real life is full of colour, so colour must come."

Guy Green did not think colour would ever become 100 per cent., and George Gunn instanced the change from silent to sound as a parallel, but he argued that sound was a comparatively simple problem compared with the complexity of colour. The measure of the complication was the lack of finished, reliable colour processes that producers could

Continued on page 35

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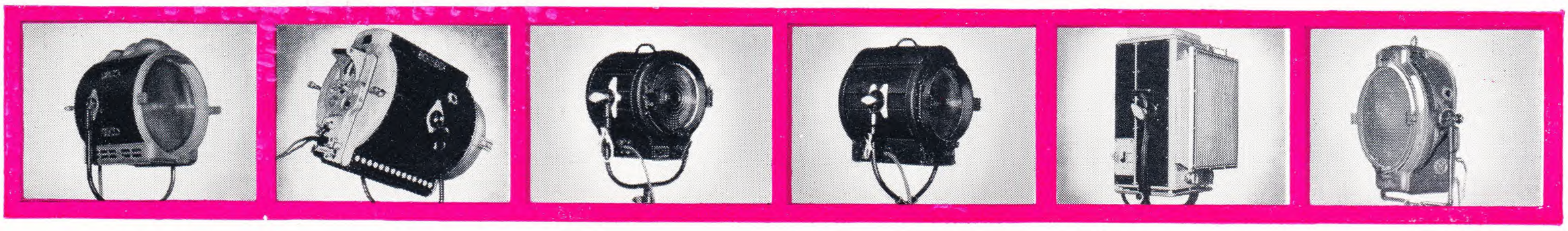

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SPOT ON—*continued*

choose from to make their films. At present that was the main limiting factor in the development of colour pictures.

Fred Young modified his earlier statement by admitting that monochrome films might still be made. He pointed out that custom died hard. In 97 homes out of a 100, you would find family portraits in black and white. There could be great beauty in black and white, and it was not likely that it would ever disappear entirely.

George Gunn: But not many artists paint in black and white.

"Surely that is in line with the fact that there are now motor-cars, but people still ride horses," broke in Desmond Dickinson. "They do it because they like it, but, unfortunately, this business we are in is a vulgar, common business, because millions have to be persuaded to pay to see it."

Both in films and in television, continued George Gunn, everybody felt that the technical development was not complete until it was produced in colour.

The question of newsreels was here introduced by Derek Williams. There were certain showings, he said, that were valueless without colour. In horse racing, for instance, if you could not see the colours of the jockey you could not tell which horse was which.

"Colour also has a dramatic value," said Guy Green, "and a psychological value. People like to see something bright after their drab, everyday existence."

Lovat Cave-Chinn thought that a musical in black and white would be extremely dull and a costume play would be equally dull. Unless you happened to be colour-blind, you were seeing in colour all the time, and everything in monochrome must seem artificial. His ideal film in colour was an ordinary, straightforward story so presented that people, having watched it, did not consciously realise whether it was in colour or not. That brought him to the use of colour: we were still too heavy in the use of colour; we over used it. He would like to see a picture made mainly in grey and using only flesh tints.

Against that Freddie Young argued that most audiences had a very poor appreciation of the use of colour.

Developing his argument, Cave-Chinn claimed that another problem in colour films was the very poor condition of kinema screens in this country, apparently because few kinemas could afford new ones and also because smoking was allowed in the auditoria. That had a dreadful effect on the results of the hard work done by the cameraman and the colour laboratories.

This point was right up George Gunn's street. He agreed that the colour of screens in this country was almost universally bad, and the main reason was smoking. He knew of several cases where screens had been cleaned or repainted a week before an important première, and even in that short time the amount of yellow deposit from smoking was unbelievable.

The effect of all this could be judged when one realised that the picture sometimes had to penetrate about 200 feet of smoky air before it reached the dirty screen to be reflected back through the dirty air again.

Fred Young: Sometimes it is like looking through a London fog.

Gunn: Yes, 2,000 people all puffing at pipes and cigarettes.

Dickinson: And that is why pictures, as shown in the rush theatre should always look far too hard. Anything that looks really good in the rush theatre will be just so much slush in the kinema.

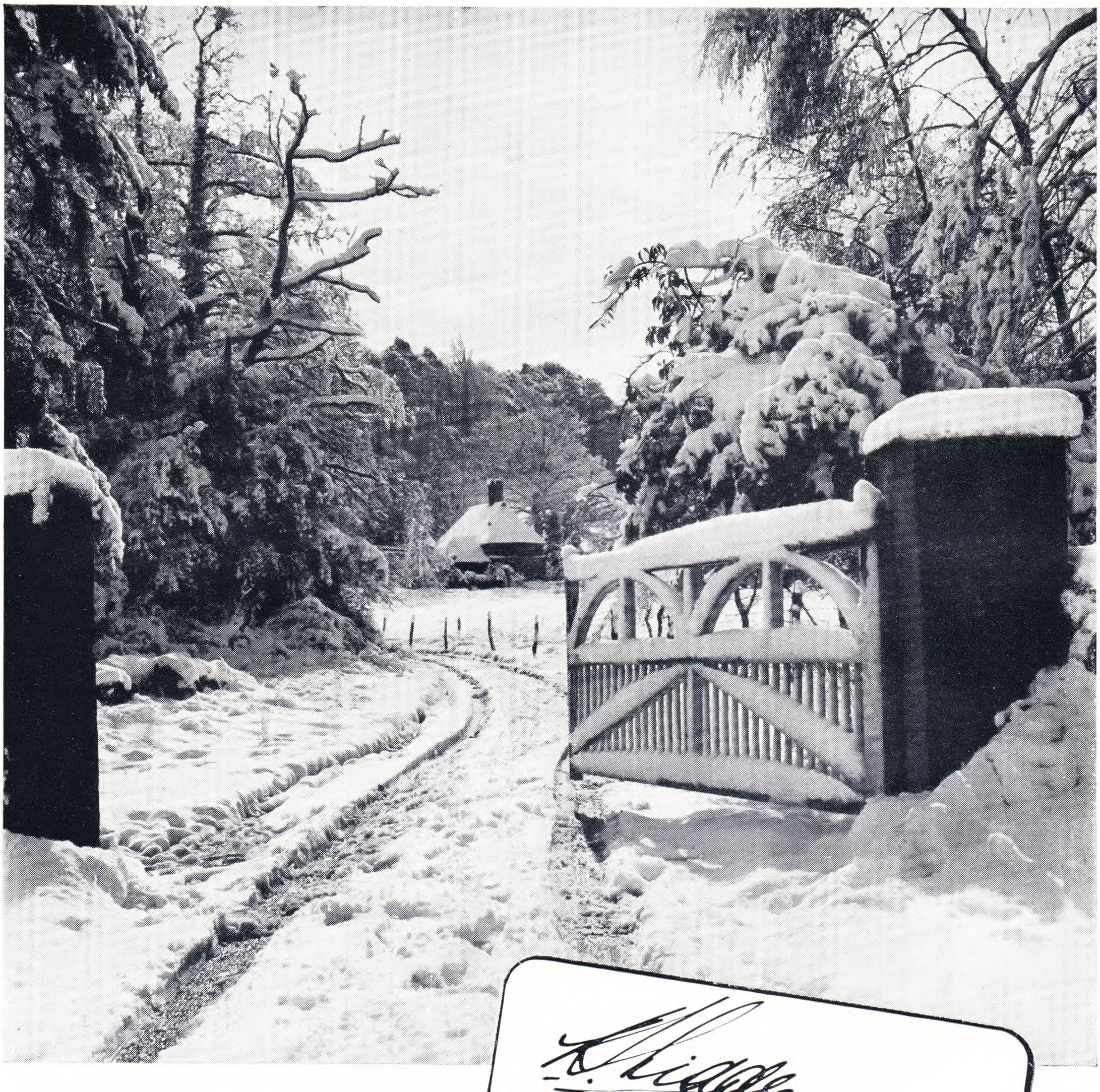
That exhausted the subject of colour, and the conversation turned to "Oscars" and whether they are a good thing because they stimulate fine work, or a bad thing because individuals might be tempted to strive for an award rather than the general good of the film and the team making it.

As the only man present who had won an "Oscar," Guy Green confessed that he was

Continued on page 38

Above: "Colour must come 100 per cent., surely," says president Fred Young with an enthusiastic gesture across Derek Williams, while Desmond Dickinson is thoughtful. Left: Guy Green confesses that he is "very glad" to have won an Oscar, because, apart from its commercial value, it gave one an artistic satisfaction and was proof that one had done something that people had noticed and thought good

Secretary Bert Easey (right) takes no part in the general discussions. He waits until the "warming up" disputations on theoretical subjects have run their course, and then produces the business agenda, which deals with the problems of individual cameramen and matters of policy affecting all the fifty-five members of the society. Meetings of the full membership are held regularly at the society headquarters in Sloane Square



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"We still over-use colour," Lovat Cave-Chinn

"Of course we take time," Desmond Dickinson

"Think of it, 400 feet of smoky air," George Gunn

SPOT ON—*continued*

very glad to have it. Quite apart from any other consideration, the award had a commercial value because, in the film business, people went a great deal by what other people said, and an "Oscar" was proof that one had done something that people had noticed and that was good.

Dickinson: But if a man photographs a bad film, however beautifully he does it, he will never get an "Oscar."

Everybody secretly thought it was a wonderful thing to have "Oscars," said Fred Young, but lately it had been suggested that cameramen seeking an "Oscar" took longer time to light. Naturally, every cameraman wanted to have every shot to his complete satisfaction, but he had also been aware for many years that it was vitally important to get the picture done on schedule. A balance had to be kept between the two things and he, personally, thought "Oscars" were a fine thing.

What worried Derek Williams was the awarding of the "Oscars" and who decided whether the winning work was good or not. If that could be perfectly judged, it was an excellent thing, but his opinion was that, more often than not, it was imperfectly judged.

Fred Young replied that the system of judging was extremely complicated and had many safeguards against error; and Guy Green defended the awards further because they were a reward for good work that was primarily not a financial reward and, as such, gave the winner an artistic satisfaction.

George Gunn wondered whether the effort of striving for an "Oscar" might sometimes effect a cameraman's work; but Fred Young was quite definite in his denial, "I don't think it would ever occur to him."

But one weakness, insisted Gunn, was that the award was often associated with one picture. A bad picture could be superbly lighted.

"That is very unlikely," chipped in Guy. "I have always found that the standard of good acting and direction always help to lift you up as a lighting man. With a bad director it is a terrible struggle to get any sort of lighting at all."

At this point, hon. secretary Bert Easey waved an agenda under the chairman's nose, and the meeting shelved academic discussion and started to get down to the regular business of the society.

Saving Grace of Effects

TALE OF "HOFFMANN" TOLD BY CHRIS CHALLIS

"ALTHOUGH 'The Tales of Hoffmann' appears to be a lavish and expensive production, actually it cost less than half as much as 'The Red Shoes,'" stated Christopher Challis, in a paper to the BKS Film Production Division on November 21. This was largely due to the absence of formal sets, and to the fact that special effects were executed chiefly in the camera.

Mr. Challis first explained how the film had its inception at a gathering in a Chelsea studio, where Michael Powell, Emeric Pressburger, Heine Heckroth, Moira Shearer and himself listened to a recording of the music made by Sir Thomas Beecham. Heckroth made a number of paintings, which were later filmed and were joined together to form a sort of cartoon version of the film. As each sequence was filmed, so it was joined in to replace the painting.

To illustrate the simplicity of the settings, the speaker first showed the opening sequence of the film, "The Enchanted Dragonfly" dance. It opened with cut-outs of weathervanes against a blue night sky—the fascia of a theatre, again a simple cut-out—a cloakroom consisting of a background, a few cloaks, and a counter. The setting for the dance itself was a beautifully painted floor, simulating the surface of the pool with water lilies, and a back-drop. Gauzes painted with leaves camouflaged the ramps on which the dancers moved.

Each of the three acts, continued Mr. Challis, is basically of a different colour. The dance of Olympia, the mechanical doll, was filmed behind yellow gauzes. A Mole-Richardson 350-amp. spot focused attention on the dancers and produced a theatrical effect. Cellophane cut-outs of chandeliers were hung against the gauze to increase the lightness and airiness of the scene.

The main shot was a 360 deg. pan right round the room. The lights which lit as Hoffmann passed were worked by remotely controlled shutters. Since each of the five layers of gauze cut the light by about 15 per cent., it was necessary to use no fewer than 100 MR 170 arcs, as close together as possible, each with a shutter.

The illusion of the drawing-room turning into a lake was again done by yellow gauzes, the outline of the swan being painted in white upon a black gauze. Twenty feet behind this was the backing, with the moon painted on it. Each plane of gauze was lit independently, the lamps again having remotely controlled shutters, which were operated to coincide with musical cues (the whole picture was pre-recorded, no live sound whatever being shot). The change back to the ballroom was effected by instantaneous operation of the shutters.

The effect of the doll being torn apart was done by means of stop-action, black velvet bags being placed over Moira Shearer's limbs until she was completely invisible except for one kicking leg. The scene in which her dismembered head moves in time to the music was, of course, done by cutting a hole in a piece of wood, through which she placed her head.

The second act called for a complete contrast. It had to convey the impression of a decadent city and the crude colouring was quite deliberate. The canal was built as a long trough filled with water, and in the bottom were impressions of palaces and bridges. Paintings on glass were lit from the front and back. Coloured pigments were floated on the water to wipe out the reflections as the water was rippled. Giulietta's reflection in the water was done by photographing a close-up of her, with the rippling water overprinted.

For the scene in which Hoffmann loses his reflection, the front set was duplicated behind the mirror. The dancers had to repeat their movements exactly in the reverse direction.

Throughout this act there were no formal sets: simply furniture, drapes and a cyclorama.

The last act, 45 minutes of screen time, was shot in nine days, in the silent stage at Shepperton—the largest in the country. A circular room 50 ft. in diameter was raised 10 ft. off the floor; the walls consisted of a double row of colonnades. The huge stage was encircled

Continued on page 43

THE ROUGHER THE BETTER

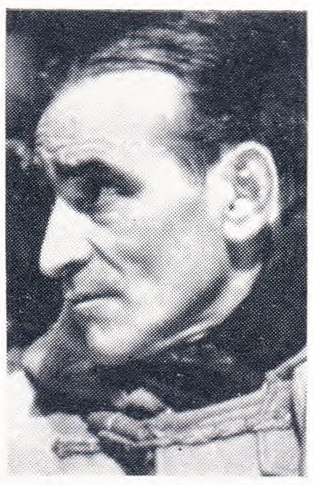
Says "Tough Guy" Micky Wood

ROUGH-HOUSES in British films are never so fierce as they are in American productions, according to Micky Wood, principal of the Tough Guys Stage and Film Agency.

Micky should know for, since he started his venture—almost as a one-man show—about six years ago, he and his Tough Guys have had a hand in most of the British features and in some that have been made here by American interests.

"Most of the fights done in this country," says Micky, "are child's play compared with what we can do," and he recalls that when he worked on "Night and the City" here, he was asked to make additional fight scenes for the American version.

Micky's first film rough-house was for George Formby's "George in Civvie Street," when he worked with Kid Lewis. Micky is the former lightweight wrestling champion of Great Britain, and is also a more than competent boxer, swimmer, diver, horseman and swordsman, as well as a wartime instructor in Commando combat. In his own words, "I saw a lot of phoney fighting in films, and I knew we could do better than that."



Micky Wood as he appears in HIGH TREASON

Starting with that conviction and the advantage of knowing that he personally could tackle any stunt that he was likely to have to ask anyone else to do, he has built up an agency that now has about 350 men and women on its books, whose range of toughness covers riding, wrestling, boxing, weight-lifting, archery, swimming, diving, frogmen exploits, car crashes and racing, fencing and swordsmanship of all kinds, gymnastics, circus acrobatics, ju-jitsu, wall of death riding and horse-jumping.

His office at 187, Wardour Street, is a pictorial record of his business progress, for it is covered with photographs of stars and of stunts. The stars come to Micky chiefly for instruction: Leo Genn and Anthony Steel, for instance, polished up their vaulting for "The Wooden Horse" in Micky's gymnasium, and Laurence Harvey had lessons in boxing.

Nowadays general expert Micky is surrounded by particular experts.

John Wadham, technical director, specialises in car crashes: he will tell you that he prefers American cars for the job, and never crashes at over 30 mph.; which will seem fast enough to satisfy most people!

Paddy Ryan is stunt director. He and Micky usually take on the most dangerous jobs. It was Paddy who was thrown into the moat from the top of a 75 feet high tower when MGM was making "Ivanhoe" at Elstree.

L. S. White is the expert on pageantry; John Stamp has a wealth of knowledge and ability on horse-riding, while Eric Boon, whose name has an even wider public, stands by for boxing.

It is only natural that Micky lays great importance upon the reality of screen fights, and he has a theory that a great many of the leading men stars in Britain first attracted attention through well-organised and well-photographed rough - and - tumble sequences. Actresses do not have the same chances of stardom by Micky's method, for female tough-stuff is not popular in British productions.

But in spite of that, this courteous and quiet-spoken "tough guy," is always ready to lay his talents and those of his "boys and girls" at the feet of anyone who wants to film or stage a "95 per cent. real fight," with everyone fully insured at Lloyds.

Paddy Ryan making his 75-ft. drop in IVANHOE

SAVING GRACE—contd.

by a cyclorama upon which the effects were painted. The sea was painted on a sloped ramp, which served to mask the lighting for the backing.

The scene was lit entirely with M.R.170 arcs, which had to be connected in series-parallel: the hard edges of the circles of light were destroyed by the use of frosted gelatine or Fibreglass filters—the latter having the advantages that the colour temperature was unchanged, and that they were impervious to heat.

In the story of Antonia, the appearance of a theatre around the actors was double-exposed in the camera. The beam of light up which the dancers moved was, of course, solid, but double-exposure gave the appearance of lightness. The theatre itself was a painted matte. The scene in which two dancers appear simultaneously in four different angles was again multi-exposed in the camera. Finally, the curtain which falls to close the act was painted from a blow-up of a long-shot.

The film as originally envisaged would, concluded Mr. Challis, have necessitated about 40 opticals, and the time factor prevented this. For this reason all the effects had to be achieved in the camera.

Replying to a query on photographic aspects, Mr. Challis stated that the brightness of the M.R. spot would attain about 6,000 to 7,000 foot-candles at 30 ft. throw. The average light intensity worked at was 350 foot-candles.

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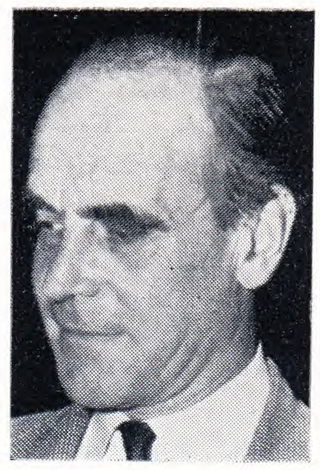
J. GOSSAGE

An Optical Illusion to Beat Our Climate

Co-producers John Gossage and Derek Twist describe how the Travelling Matte Process allowed them to achieve the "impossible."



D. TWIST

FINAL victory in the producer's constant battle with the British climate and elimination of the costly necessity of taking high-salaried stars on location are the almost revolutionary advances foreseen by John Gossage and Derek Twist, of Templar Productions, as a result of the steady development of JARO's travelling matte process.

Gossage and Twist regard themselves, with some justification, as pioneers in the practical application of TMP to feature production.

As producer and director respectively of the ACT film, "Green Grow the Rushes," they were the first to use the process on an extensive scale and, as co-producers of "Angels One Five," in collaboration with Associated British at Elstree, they have used it to obtain results that could not, they claim, have been obtained without it.

Indeed, Gossage and Twist told KINE. Studio Correspondent Graham Clarke that TMP was the main reason for making the picture possible.

No Hesitation

The story is set against the background of the Battle of Britain and, as there are now only two flyable Hurricanes in this country and no German bombers at all, it was obvious that models would have to be used. That meant either back projection or TMP, and, in the light of their experiences with "Green Grow the Rushes," they had no hesitation in deciding on the matte.

The first essential was to prepare the script in close consultation with the "boffins"—the travelling matte experts. The final result has been a picture that has something like 70 TMP set-ups out of a total of about 650, and many of these have more than one foreground married to the background.

Because it suited their convenience, they reversed the accepted order and shot the backgrounds first. Using a specially converted Anson, with a transparent nose, they obtained every imaginable view of clouds, sky and the Kent countryside that they could foresee as likely to be useful. For close-ups of the pilot in the cockpit they used a genuine Hurricane fitted with an electric motor to drive the propellor and mounted on four hydraulic jacks to give rolling and pitching movement, while the camera during takes was "floated" on a crane.

By these means and TMP it became possible to get a realistic shot showing, over the pilot's shoulder, bullets crashing into the the instrument panel, and then an ME109 seen diving across the Hurricane's nose. This effect was achieved in several stages. First the pilot was photographed sitting on a stool against the usual ultramarine background. Then they shot the cockpit of the Hurricane against the background and fired bullets from a sten gun at the instrument panel. The third shot was of the model ME109 going across the Hurricane's windscreen. The necessary views of sky and cloud had already been obtained. All these shots were then married in the TMP laboratory.

Another remarkable job done in the labs. was on a shot from above of six Heinkels flying over the Kent countryside. The Heinkels were painted on glass and shot against the blue. The actual location background used included a certain amount of cloud, and the "boffins" were able to matte the studio shot so that the planes actually appear to fly in and out of the clouds.

Effects of this nature are, of course, completely beyond the scope of back projection, and the producers found, also, that added advantages of TMP were that they could experiment with various backgrounds until they found the one that suited exactly, and also that the timing on the individual shots could be almost infinitely adjusted.

The use of models had to be fairly extensive. The larger ones had practical propellors, guns and bomb releases, all electrically controlled, the current being conveyed through wires by which they were suspended from a mobile cross-tree very similar to that used by puppet-masters.

Except in two very close shots the suspension wires (which were painted blue) were completely matted out by the fractional "bleed" that is inherent in the process.

Summing up their experiences, Gossage and Twist found some disadvantages. The powerful blue light, they say, is often depressing to artists, some of whom also find it difficult to act "cold" without even a set or background against which to react. A limitation, too, is the fact that the camera cannot be tracked or panned in the studio sequences, because that would immediately falsify its relation to the static background. The third disadvantage is, they are confident, only temporary. This is the comparatively long time taken over the laboratory side of the finished product and is due to the sudden increase in the popularity of the process resulting in an overload of work.

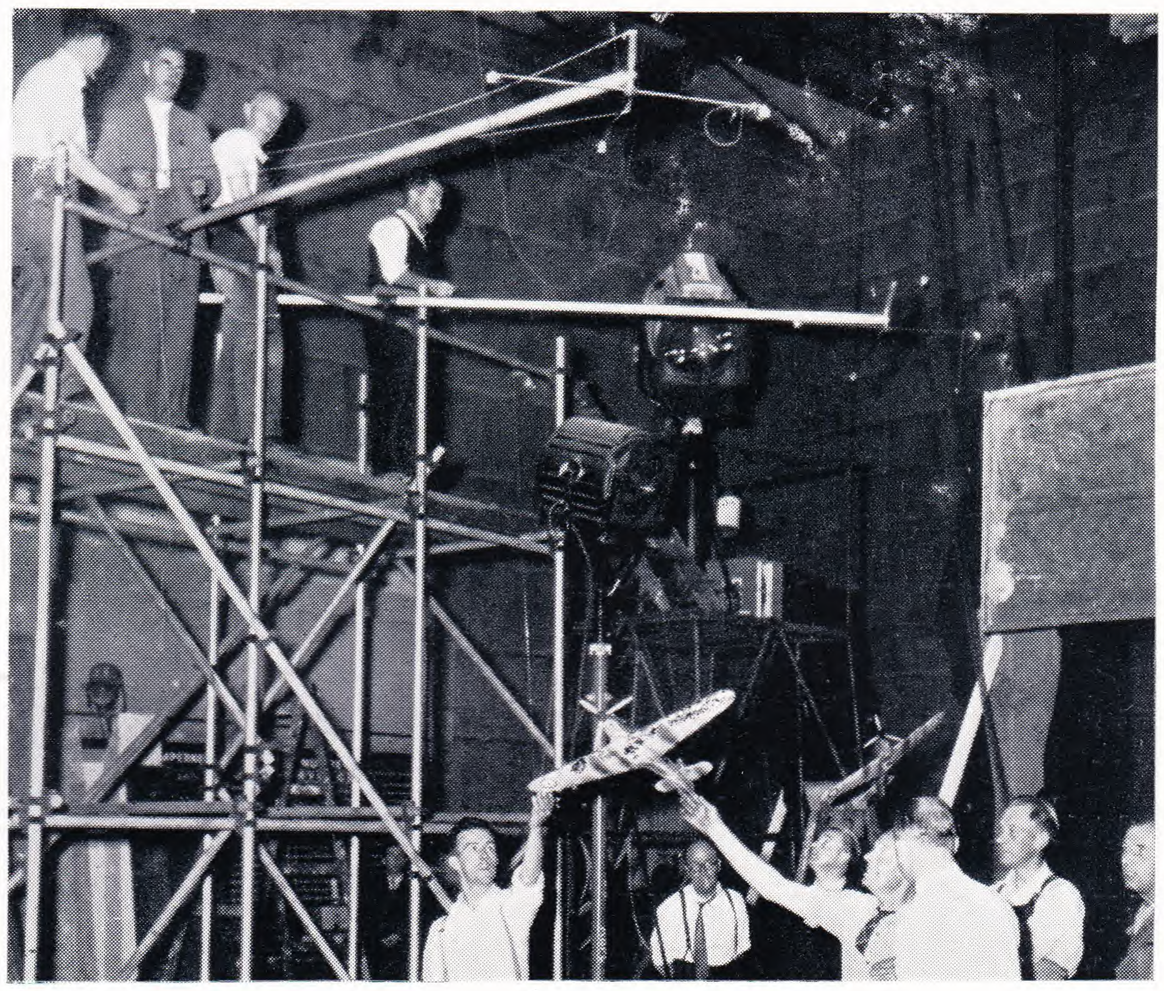
Meeting Disadvantages

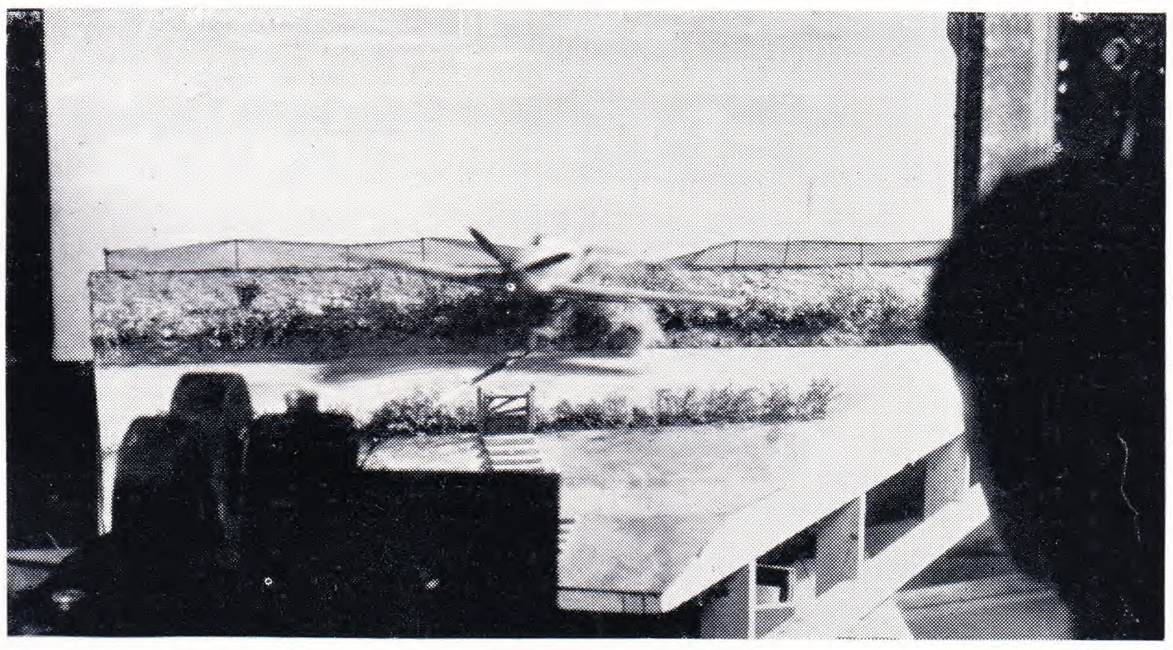
The first disadvantage does not apply to top-class artists: the second will be overcome when the "boffins" perfect the electronic camera head for studio and location synchronisation upon which they are now working; and the third disadvantage is merely a matter of laboratory expansion and reorganisation.

When these problems have been met Gossage and Twist believe that TMP could have a revolutionary effect upon British production, making it virtually continuous all the year round.

Travelling matte will allow backgrounds to be shot in May, early June or September, and the expensive part of a production, using stars, can be dealt with in the winter in a nice warm studio, thus eliminating the producer's agony of seeing rain wash away his costing economies in a flood of waiting-time salaries.

It is a step towards overcoming our inherent disadvantages compared with the wonderful climate of Hollywood, and would also provide the opportunity of obtaining first-class feature production quality in quite small studios.





Top: Technicians arranging one of the model Hurricanes for a shot. At the top of the picture is the "puppet-master's cross," from which the movements of the plane were controlled by suspension wires which also carried the current for the propeller motors. Below: Scale shot showing how a plane crash action was quite simply matted in

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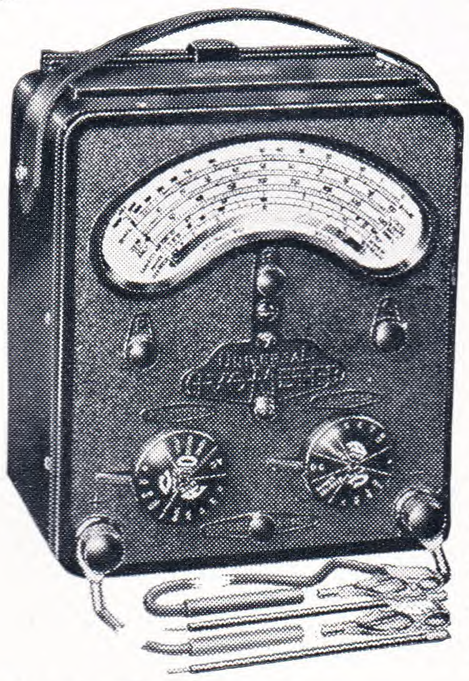

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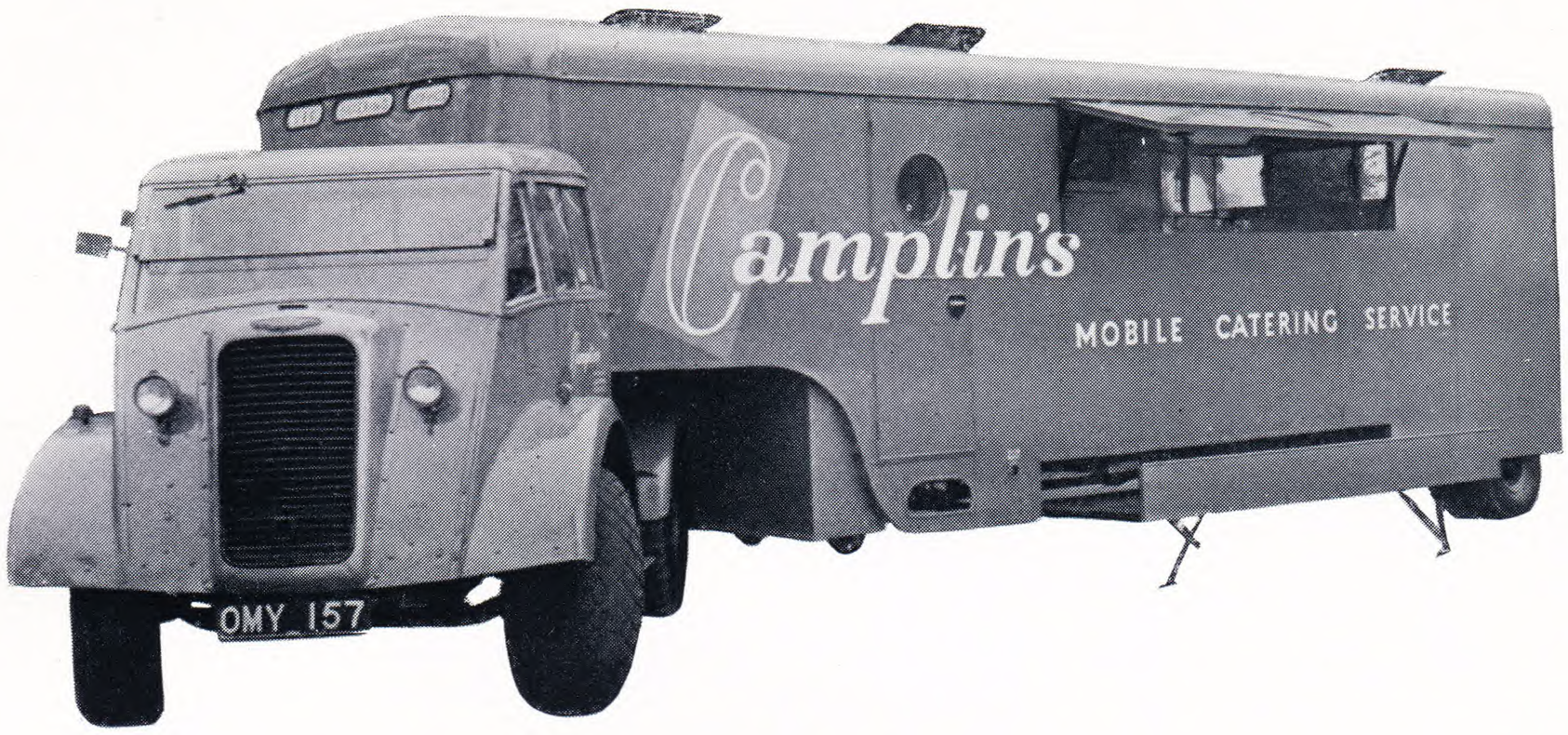

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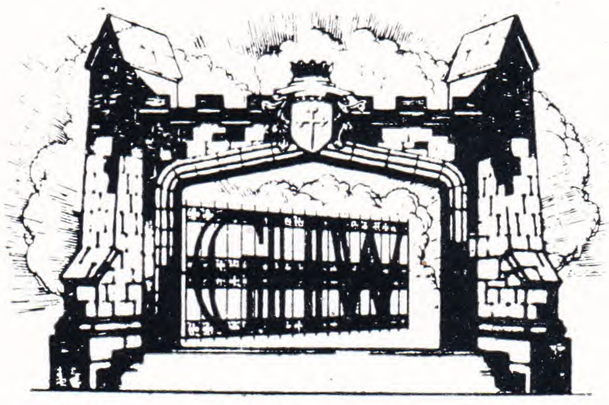

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THIS WILL BE COLOUR YEAR

DURING this year distributors expect to deliver for British audiences no fewer that 184 features and 56 shorts in colour.

Such a remarkable figure is evidence of the great advances that have been made in this medium since the war.

On this and the following pages, "Kine. Studio Review" surveys some aspects of these important developments.

Below are the views of Kenneth Winckles, administrator and a director of CMA, and of Josh Billings, the "Kine." Review Editor.

EXTRA TO SELL—

Says Winckles

ASSESSING the box-office value of a film before it has been shown to the public is something that a brave man attempts and a wise man will avoid if he can.

We can all generalise on the subject, but it is foolhardy to particularise. There is, however, one definite statement that can be said in box office terms about a feature in colour as opposed to a feature in monochrome. All other things being equal, colour is an advantage, because it is something extra that you have to sell.

But, unfortunately, that statement is governed by the important phrase "all other things being equal." Briefly, a good film's attractions may well be improved by colour, but a bad film is a bad film the world over. You may deck it out in any shades you can imagine: you may sell it with showmanship and advertising, and it will still fail at the box-office, because the public will not pay to see poor films.

In the last year or so there has been a definite trend in America towards an increase in the number of colour films, a trend which is now being lightly reflected in British Studios. This is welcomed by the exhibitor so long as the quality is there.

It has one important facet in that it is a useful weapon in our rivalry with television. It is likely to be a long time before television in England can give colour to its audiences, but we have the chance now to build up a solid advantage.

How much the colour trend of American producers has been influenced by the growth of TV in that country is not for me to guess, but it is a reasonable deduction that it has been guided by the experience of distributors and exhibitors there of the impact of colour at the American box-office.

This trend is interesting and informative, though we in Britain must be guided by our own experience and problems, which have wide differences from those of America.

I believe that the appeal of colour is growing and that it will be answered by a further increase of colour pictures, but that there must be a limit.

Musicals, westerns and out-of-door subjects in general are naturals for colour, but there still are and always will be certain stories that are best made in monochrome. Two outstanding examples come immediately to mind—"Hamlet" and "White Corridoors." Colour would not have improved them and might even have marred them; yet both have been complete box-office successes.

Another advantage of colour that is, perhaps, only just being appreciated is its value in some of our more remote overseas markets. The earnings of a film can be swollen quite appreciably by its showings in the Far East, for instance. Audiences in these parts, such as Malaya, India or Ceylon, are often comparatively primitive. They may not understand or appreciate English acting and still less the story presented in our western way, but they can and do appreciate colour; for colour, like the arts, is international.

Summing up, therefore, I give box-office judgment in favour of colour, providing that we never forget that the story of a film, and the way it touches the heart and the mind are the real friends of the exhibitor.

THESE are the colour productions that distributors aim to put on British screens in 1952. *The numbers in each case are approximate:—*

AB-Pathé	12 features,
Anglo-Amalgamated	1 feature, 1 short
Apex	2 features
Archway	2 shorts
British Lion-Independent	3 features
Columbia	24 features
Eros	6 features
Exclusive	1 feature
Films de France	1 feature, 2 shorts
GFD	20 features
Grand National	3 features
MGM	40 features
Paramount	10 features
Regent	2 features, 4 shorts
Republic	12 features
RKO-Radio	15 features, 12 shorts
20th Century-Fox	16 features
Warner	10 features, 35 shorts
United Artists	6 features

I'M SOLD—

Josh Billings

MOST people have two minds about the colour question, but few will deny that it has given a new lease of life to westerns, adventure melodramas, travelogues, period pieces and cartoons. Without colour, Disney's cartoons and "live" pictures, such as "Treasure Island" and "Robin Hood," would have been but shadows of their glittering, exciting selves. Musicals, too, need colour.

Monochrome is good enough for most gangster melodramas, domestic dramas and conventional farces, but there have been big exceptions even to this rule—namely, "Rope," "Blithe Spirit" and "This Happy Breed," all of which obviously profited by colour. Most of the successful double bills have contained at least one colour film.

Further proof of the importance of colour can be found in the list of last year's big winners. More than 20 employed colour photography, and these included the top two, "The Great Caruso" and "Samson and Delilah." Others were "Cinderella," "Captain Horatio Hornblower, RN," "King Solomon's Mines," "Tale of New Orleans," "Show Boat," "Wedding Bells," "Across the Wide Missouri," "Branded," "On the Riviera," "Red Mountain," "Alice in Wonderland," "The Flame and the Arrow," "Tea for Two," "Happy Go Lovely," "Pandora and the Flying Dutchman," "Battle of Powder River," the most successful reissue, "Reap the Wild-wind," and Disney's "Beaver Valley."

During the first three months of 1952, "Where No Vultures Fly," "Lullaby of Broadway," "Two Tickets to Broadway," and the unit programme, "Flame of Araby" and "The Treasure of Lost Canyon," have reached the top flight and all were in colour.

Which is the best system? Having covered them all, I still put Technicolor in front, but the latest Trucolor, seen in Republic's "Honeychile," has made terrific strides. Supercinecolor, liberally splashed by Columbia, is on the up and up; Anscocolor made all the difference to "The Wild North" (MGM), and Ekta Color put "Royal Journey" (GFD) in a class by itself. In fact, the range of efficient systems is now so wide that black-and-white is in danger of being completely crowded out.

Personally, I'm completely sold on colour and consider it the greatest box-office boon since talkies were invented.

PROGRESS IN PROCESS

In an interview, W. M. Harcourt, FRSA, FRPS, FBKS, chief of Denham Laboratories, surveys the facilities offered

W. HARCOURT

THE five integral colour processes known in this country are interchangeable; prints from one colour negative can be satisfactorily made on any of the five positive stocks.

This was the statement made by Bill Harcourt, FBKS, FRPS, head of Denham Laboratories, which, alone among British laboratories, has exhaustively tackled the problem of colour.

He emphasises, however, that by this statement he does not mean that sections of the various processes can be intercut; apart from the differences in processing, each system has its characteristic colour balance. Advantage may be taken of this fact in the selection of a printing material which will best suit a given negative.

Five Processes

The five processes in question are Agfacolor, Ektacolor or Eastman colour negative and positive, Gevacolor, Ansco Color, and Ferrania. The last is newly introduced from Italy and shows promise of producing excellent results. The Eastman stocks are not available in this country.

Although these systems are to this large extent interchangeable, each requires specialised processing. The reversal process has fortunately been abandoned in favour of negative-positive working so there is no fundamental difference between the systems. But each needs slightly different solutions and different processing times, while Ferrania negative needs a second exposure and redevelopment, in order that the masking component which provides compensation for the unavoidable deficiencies of the dyes, shall be developed to silver to play its part in the second exposure, after which it is bleached out.

Ektacolor or Eastman colour negative (the exact distinction is not clear) also provides automatic colour masking, but in this case it is effected by means of coloured couplers. The negative image has a strong orange cast, which serves to compensate for the shortcomings of the cyan and magenta dyes. In printing, a magenta filter is needed, additional to the usual correcting filters.

For a couple of years past two Debrie developing machines at Denham, one 35-mm. the other 16-mm., have been working day and night on one or other of the processes. Foreseeing a rapid increase in the demand, Denham is now converting five black-and-white Debrie machines to colour—a conversion which, thanks to the unit construction of the machines, involves little more than plumbing alterations.

An important development made possible by the researches of Dr. Gloyns, Denham's chemist, is the use of spray processing in colour development. Hitherto, the problem has been that, as compared with black-and-white developers, aerial oxidation of the colour developer was excessive, but a careful study of the chemistry of the process has resulted in the perfection of methods of compensating for this oxidation.

A silver sound track is necessarily produced by means of a viscous bleach—a rather messy job, which, moreover, was rarely satisfactory at film speeds over 15 feet per minute. The "treacle" is now applied over the picture area by means of compressed air, resulting in an even coating. When the bleach has done its work it is scraped off, reactivated, and used again. The only difference in sound quality between colour and black-and-white is that the former shows a sound level about half a fader-step down. There is no detectable treble loss.

Grading Methods

Notwithstanding the possibility of increased processing speed, Bill Harcourt still looks despondently at his colour developing machines, which run at only 40 feet per minute, while his big British Acoustic black-and-white machines run at speeds up to 250.

The secret of satisfactory colour prints is correct colour grading. The method adopted at Denham is to print on a single strip of film a couple of frames from each scene of a reel. Each scene is graded and printed with the estimated gradings; at trifling expense it can be reprinted with fresh gradings until satisfactory results are obtained, and these gradings are then used in printing the complete reel.

The method of colour correction employed in the printer is, of course, to attach squares of filter material of the required primary colour and depth of colour to the apertures in the light control matte of the Debrie Matipo printer.

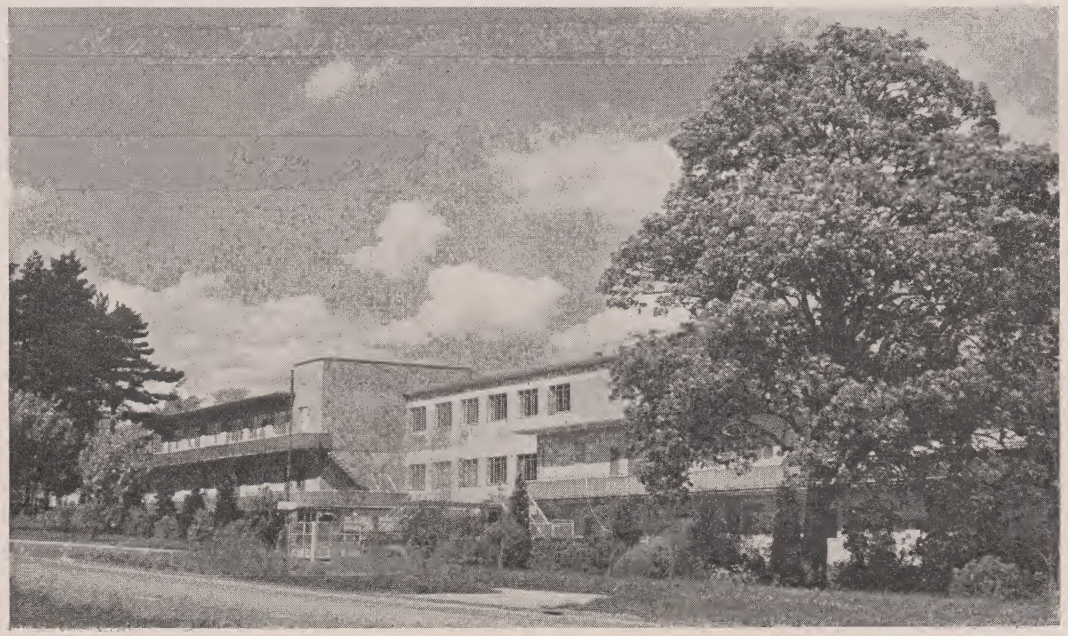
The service given to the studios in colour is practically identical with that of black-and-white. Colour rushes are delivered just as promptly; although these rushes are individually graded, it is not feasible to establish a final grading until the reel is finally assembled. For instance, one scene might show a blue sky and green fields, and the next an orange-coloured interior; it is necessary to reduce the colour contrast between such consecutive scenes.

The establishment of colour processing on a commercial basis has led to prices being reduced to commercial levels. The cost of colour negative is about 9d. per foot, and development costs 2d. The finished positive costs 6½d. per foot—this irrespective of whether one or 50 prints are ordered, although obviously in view of the complexity of the grading operation small orders cannot actually pay.

The one urgent matter for all these processes is the perfection of a duping method. Because the duping process results, so far, in a serious loss of colour, the use of these processes is so far confined to small-scale production, where duping and opticals can be dispensed with. Bill Harcourt has, however, seen an example of duping on Ferrania stock which left little to be desired. All the stock makers are working actively on the problem, and it may be assumed that duping will, before long, be practicable.

Two advances which have been made in recent months in all colour stocks are a finer grain and improved colour saturation. Consistency between different batches of emulsion is now perfectly acceptable, and differences are easily controllable.

Denham Laboratories is now undertaking processing for practically every country in Europe, and even for America. On the day of this interview the first batches of negative had been received from a Swedish production; rushes were being returned by air the same afternoon. The aim is to be able to handle any process that may appear, either in 35-mm. or 16-mm.



A general view of the laboratories at Denham showing the extensive layout

THE TECHNICOLOR WAY

By R. HOWARD CRICKS
FBKS, FRPS

Dr. H. T. KALMUS

IT is now over 20 years since the present Technicolor process was evolved. In that time, we have seen countless colour processes, all of which were destined to revolutionise the industry, and some to make colour as cheap as black-and-white; yet still Technicolor holds its place as the world's pre-eminent colour process—the standard by which other processes are judged.

Today the modern laboratory opposite London Airport has an enormous output, which covers the requirements of this country (with the exception of an occasional trade-show copy) and a large proportion of the Continental market, including prints of all British films and a number of American ones.

The Impossible

Twenty years ago, most technicians were agreed that the process was quite impracticable. In the camera, it was argued, it was impossible to secure adequate definition from a bi-pack—especially as the rear component of this bi-pack produces the cyan image on the print, which is the chief factor in image sharpness. In the imbibition process, it was thought to be quite impossible to secure accurate registration and sufficiently close contact between the positive stock and each of the three matrices, for a sufficiently long time to complete dye penetration.

Dr. H. T. Kalmus (who on the occasion of his recent visit to this country was awarded the Honorary Fellowship of the BKS) is the first to admit that without the closest co-operation of Eastman Kodak these problems would have remained insoluble.

Another objection urged against Technicolor was that the process was not natural colour photography, since the printing dyes were chosen on an arbitrary basis. The answer is that the public is quite indifferent whether colours are produced naturally or synthetically, so long as they are pleasing. In point of fact, not only are the dyes selected with some degree of arbitrariness, but the saturation of the colours can be varied by means of the "wash-back" process, in which a proportion of the dye is washed off the matrix before the latter comes in contact with the positive stock.

Imbibition

The secret of the high degree of registration now achieved—appreciably better than even five years ago — lies in the imbibition machines. In these machines (first described in British patents Nos. 300,818, 307,659, and 319,924 of 1928) the positive stock is engaged with pins carried upon a monel metal ribbon, and the three matrices are placed in succession upon the pin-belt, similarly registered by means of the pins.

But before and after this operation there are two essential factors: the special low-shrinkage base developed by Eastman Kodak, and the maintenance of the highest degree of accuracy in perforation and in the mechanical components of camera, matrix printers and optical printers.

A large part of the success of Technicolor must be attributed to the fact that it is not simply a colour process. It is a complete studio and laboratory service. From the inception of a film—right through the shooting and editing—the making of opticals and inserts—the production of release copies: at every stage Technicolor experts are available for consultation and advice.

It is not unfair to the American origin of the process to say that the British technicians, under Kay Harrison, have, in conjunction with British cameramen, done much to enhance the aesthetic aspects of the system. Head of the studio section is George Gunn, FBKS, whose early experience embraced both camera and sound. His assistant is Frank Bush. In conjunction with the colour consultants they have been largely responsible for the elimination of the phrase "Glorious Technicolor" and the perfection of softer colours more suited to English eyes.

Camera Progress

Until a year or two ago the restricting factor upon colour footage shot in this country was the small number of American cameras available. Concurrently with the production of the GB-Kalee black-white camera for JARO, Newall's, of Peterborough, built a number of three-strip cameras, which after exhaustive tests were proved to be the equal of the American apparatus, and are now responsible for a large proportion of colour photography in this country.

In addition to providing service in every studio, Technicolor offers the facilities of its own small stage. Originally intended for research work, it has proved of great value to producers, enabling inserts to be shot at low cost, and even enabling complete small-scale films to be produced.

Eighteen months ago, great interest was aroused in Hollywood by the announcement of a modification to the camera and the film stock which would make it possible to dispense with the high illumination levels normally necessary, and to come down to the levels of black-and-white photography. Tests made in American studios fully confirmed the claims.

At the MGM studios, which had previously used a level of 400 to 500 foot-candles, Charles Rosher made a number of tests at a level of 100 to 125 foot-candles, going down to 30 foot-candles for a night shot. At Fox, tests on scenes simulating full daylight were shot with a key-light value of 150 foot-candles, and the same figure was used with success by Universal-International.

The secret of the new process is that the film stocks and the camera filters have been adapted to working at a lower colour temperature. The value of this factor in increasing the efficiency of light sources will be evident from consideration of the colour temperature energy curves; a figure of 5,000 deg. K, which roughly matches the colour of an arc lamp, is far higher than that of the incandescent lamp, for which the standardised rating is 3,300 deg. K. The addition of a straw-coloured filter to an arc (the filter developed in America is known as the MT-1 or MT-2) absorbs far less of the energy emitted than does the blue filter needed to raise the colour temperature of an incandescent lamp to 5,000 deg. K.

In the new system, either 500- or 2,000-watt bulbs were used, run at a colour temperature of 3,450 deg. K, or light blue filters were employed to raise the temperature of other types of lamps to this figure. The result is that the light is used far more efficiently. Obviously, too, the sensitivity of the film stock has been increased.

The change of colour temperature has necessitated first an alteration in the camera filters, and, secondly, in the processing—presumably a change in the gammas of the three strips. It has been suggested—I have no idea with what truth—that hypersensitisation or latensification is used.

The new system has already been widely adopted in American studios. So far, although preliminary tests have been made in this country, it has not been used in practice.

It is not only in the studio that the Technicolor service is appreciated. The laboratory staff, under Bernard Happé, also offers the closest co-operation.

Co-operation

Technicolor has been accused of adopting a dog-in-the-manger attitude. It is fair to say that, to the extent that this has been justified, it has been solely for the safeguarding of the process and its users. Proof that this is not an essential feature of Technicolor policy is to be found in the wholehearted co-operation which has been given to the optical departments of various laboratories.

This co-operation can be traced back to 1938, when Tommy Howard, then at Denham, inaugurated the travelling-matte process in colour. Now at MGM British studios, he has done much work of this nature, notably some outstanding opticals for "Quo Vadis"—incidentally, the fact that a British technician should have been entrusted with such an important part of a major American production is, even allowing for the greater convenience of contact with the production unit in Rome, an indication of the unequalled quality of his work.

The increasing importance of opticals has resulted in the Technicolor optical printers being overloaded, and at least two other laboratories are at the moment carrying out tests, in close co-operation with Mr. Happé's technicians. Needless to say, the closest sensitometric control is necessary to ensure that the dupe material shall conform to the characteristics of the original negative; the three strips require individual processing.

A development which may seem of minor importance was the recent adoption in all prints of the positive type perforation, in place of the negative perforation formerly used. The rectangular positive perforation is agreed to give the print longer life, and it is indicative of the far-thinking attitude of the company that the very considerable expenditure which this alteration entailed should have been incurred. The changeover was not helped by the simultaneous adoption of safety base, with its different shrinkage characteristics.

Sub-Standard Work

Technicolor has never catered specifically for the 16-mm. market. Reduction prints, whether from Technicolor, Kodachrome or other originals, are printed down the centre of standard 35-mm. base, which is perforated and slit after processing.

We have, on the other hand, recently seen a number of films which have been blown up from 16-mm. to 35-mm.—notably a series of animal films made by Walt Disney. It is not to be expected that a blow-up should be the equal of a print from a 35-mm. original; apart from the mechanical problems, an exceedingly small latitude of camera exposure is allowable, and over-exposure must be avoided.

Some years ago a two-colour process known as Technichrome was evolved. Actually this was produced for a specific purpose: the filming of the Olympic Games, for the adequate coverage of which a sufficient number of three-strip cameras just did not exist. The adaptation of cameras to take bi-pack negative made it possible to ensure a coverage of all important events. Careful cutting, to avoid the juxtaposition of, for example, the green grass of the three-colour system with the brown grass of

Continued on page 14

Gevacolor Shows its Paces

THE high standard of colour reproduction obtainable by the Gevacolor process has been the subject of two recent demonstrations. Release prints of "Royal Journey"—originally shot in Ektacolor—have been made by Denham Laboratories on Gevacolor, with excellent results, and a short while back sections of three Continental productions, made throughout in Gevacolor, were projected at a trade demonstration, writes R. H. Cricks.

At their best, the colours in "Royal Journey" were as good as we have ever seen. In many of the scenes the red jackets of the Royal Canadian Mounted Police and the bright attire of the crowds contrasted with the glossy black of the royal car and the sleekness of the furs worn by the Princess (as she then was) to give an exceedingly rich effect.

The range of colours is, of course, subtly different from that of Technicolor—possibly more realistic. The excellent gradation of blacks was shown by shots of the royal party in evening dress, and by the gleaming wet oilskins of some fishermen.

But some of the scenes, notably the opening sequences, showed the blue-white veiling which was formerly typical of Agfacolor. This shortcoming was obviously due to some fault in the negative—presumably incorrect exposure or more probably faulty processing—and could not be blamed upon the positive material. (Prints have also been made on Ferraniacolor; the excessive blueness, particularly of the opening sequences, shows some improvement, but other scenes are too warm in tone.)

The demonstration arranged by Major T. H. Williamson, of Gevaert, at the Hammer Theatre, Wardour Street, consisted of excerpts from three films: a reel of an Italian documentary which had been processed in Rome; sequences from "Andalousie," a film in gay colours, shot and processed in France; and a reel from the feature film, "Barbe Bleu," processed in Switzerland.

The first gave little opportunity for judging the colour rendition, since most of the subjects portrayed were in dull tones. In contrast, "Andalousie" showed an excellent range of bright colours, which, if possibly not always faithful, were invariably pleasing, flesh tints being particularly good.

It was, however, the Swiss film which showed the real capabilities of the process. The brightly coloured medieval costumes showed an excellent purity of colour; a particularly difficult subject, newly fallen snow, showed all the crispness of good black-and-white photography. The bulk of the film, it was stated, had been shot with incandescents, the stock being balanced for a colour temperature of 2,850 deg. K., but, for the last-mentioned scenes, arcs had been used as boosters, the film having been shot purposely on a dull day.

Another particularly difficult subject was a character in a black costume, every detail of which was clearly shown, indicating again an extended gradation in the high-density region.

Sound quality seemed unaffected by the colour process. The French dialogue was especially clear, while music showed no reduction in the frequency range.

Major Williamson announced that in April two new negative stocks would be marketed, one for daylight or arcs, the other for incandescents.

A technician from the Gevaert factory, L. Meeussen, stated that these new materials were already on the market on the Continent in the form of roll film, and have shown considerably higher speed than the present material; as an example, "Barbe Bleu" was shot with a standard lighting intensity of 500 foot-candles and lens apertures of from *f*/2.3 to *f*/3.5; and the new stock is stated to be half a stop faster.

Another change in the new stock is that the silver anti-halation layer, at present on the reverse side of the base, is being coated between the base and the emulsion. It has been occasionally found that the layer caused blemishes in the adjoining turns of film in contact with it, a trouble which will be now overcome.

Gevacolor negative should preferably be stored at low temperature. Tests have shown that at a temperature of 35 deg. F. it can be stored for six months without deterioration.

Mr. Meeussen agreed that a shortcoming of the process is the inability to make satisfactory dupes,

Continued on page 14

INTRODUCING "BOUNCER" TO THE CHILDREN

COLOUR is entering, also, into the plans of the Children's Film Foundation.

Sadfas, Ltd., which has studios in Holborn and at Bromley, Kent, is in the process of producing for the Foundation a cartoon that is well out of the ordinary rut. It involves an animated drawing in Technicolor superimposed upon photographed black-and-white backgrounds and matched with the movements of humans. A similar technique was used by Sadfas some years ago when it made "The Magic Chalks" for GBI, but the new film, as yet untitled, is more advanced.

The central character of this one-reel story is an imaginary animal known to its creators as "Bouncer." It comes to life out of an illustration in an old scrapbook found in an attic by two children.

The black-and-white backgrounds have already been shot at Bromley under the joint direction of Norman S. McQueen and Don Chaffery, watched over by William Woolfe, who has the producer's usual administrative responsibility. This part of the work is straightforward.

At the present moment ten animators and artists, under the supervision of Wilfred Walker at Holborn, are starting to tackle the task of producing something over 10,000 drawings that will bring "Bouncer" to life in Technicolor.

The "script" to which they work is partly visual (in the shape of the background film already shot) and partly written in the form of stage directions for movement and action. It is a case where the detailed pre-preparation that is so valuable in normal feature production is not only valueless but often inadvisable.

Scripting for these animators must always remain fluid. The directors of the live action, of course, work to a script that defines timing and movement within certain limits, but when life-size is reduced to 35-mm. film the tolerance for inserting an animated cartoon becomes microscopic, and rein has to be given to the ingenuity, exactitude and adaptability of the artists. For instance, the script writer may say "Bouncer jumps from chair to table," but, when the live scene is shot and the cartoon comes to be added it may well prove to be physically impossible to follow that particular instruction at that particular point, and the artist has to contrive a substitute action that will retain continuity and fit in with the already recorded reactions (if any) of the human characters.

The drawings are photographed in the normal cartoon method, and the two films, live and drawn, are then married together. The finished project will be processed by Technicolor.

Sadfas, which stands for Scientific and Diagramatic Film Services, has been making sponsored films for about 20 years.

"Bouncer" lives up to his name and astonishes the real children, Mavis Sage and Bunny May

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FORGOTTEN MEN OF FILM PRODUCTION

"Studio Review" here puts the spotlight on the vast amount of varied work done in Britain's laboratories

THE last shot of the day is in the can. The captains and kings, together with the extras and technicians, depart. Producer, director and cameraman discuss the next day's shooting and arrange to meet in the morning to see the rushes. It is probable that nobody, except, perhaps, the camera operator, ever gives a thought to the organisation that permits the results of the day's work to be screened in the morning, and that ensures scenes taken over a period of months matching accurately when they are assembled.

The laboratory has always been the forgotten section of the trade. Yet, in handling negatives of a large-scale production, the laboratory accepts an enormous load of responsibility, for every penny that has been spent on the film is at the mercy of the processing in the laboratory.

In the old days the lab. was known as the "film printers," and when the term "laboratory" was introduced it was thought rather pretentious; but today the term is in every way justified, for there is no section of the trade where scientific method is more constantly employed, with the ultimate object of producing a release print which will meet the exacting demands of production unit, renter and exhibitor.

Bread and Butter

To every lab., release printing is the bread-and-butter business; but there is another aspect—the services rendered by the labs. to the studio.

The co-operation of the lab. with the production unit begins long before the first scene of a film is shot. There are three labs. which between them process practically the whole of the feature output from our studios, and their co-operation with the camera and sound crews begins when, before the start of shooting, preliminary tests are made.

Everybody in the studios knows Isidore Roseman, late of Kodak, who is always to be seen around at the start of a production which is being handled by George Humphries; as is Archie Langridge, whose sound experience goes back to Marconi days. Denham also have separate liaison representatives for the picture and sound departments. In technical charge of Kay's is Malcolm Hoare, for many years instructor in photography and kinematography at the Polytechnic. Studio contact is Denis Christopher, whose headquarters are at Nettlefold's.

The only studio undertaking the processing of its own negatives is MGM, where Tommy Howard now has his two Vinten "Spraymaster" developing machines, and will in future process all black-and-white work in the studio. An important extension of laboratory capacity is available in the Olympic labs., which have recently been completely rebuilt and re-equipped.

In every case it is the function of the laboratory representative to follow a picture through, from rehearsals to première, and to offer all possible co-operation to the cameraman, recordist and editor. Tests will be made of the film stocks supplied by Kodak, and precise measurements made of the speed and contrast of the particular batches of picture and sound stock.

Production has started. At the time when the studio closes for the night the night shift at the lab. is taking over (except in the case of Humphries, where three shifts are worked). When the negatives arrive they are first examined in conjunction with the sound and picture report sheets, and any special instructions that may have been given by the cameraman or recordist are duly noted. Tests, marked by punch holes, will be cut off and processed first.

It is rarely that the cameraman, with his unfailing eye and the regular use of an exposure meter, is guilty of wrong exposure, but after all, no two shots are alike in character, and if one shot needs different development from the rest, the system of photographing and developing tests enables such changes to be made. Allowance can be made, too, for special photographic effects such as night shots, or for scenes shot under unfavourable conditions. There is also a slight risk that stock of the wrong batch may have been loaded up; any difference in speed may have to be compensated in development.

Naturally, no laboratory likes processing film to different gammas, for an alteration in gamma involves running a leader through the machine, which is virtually put out of action for a quarter of an hour. But practical objections such as this must be set aside before the paramount necessity of first-class results.

Another factor to be considered is the distinctive styles of different cameramen. Malcolm Hoare has found that, of two productions processed at the same time, one was developed to a gamma of .58, and the other to .72; Kay's is even prepared to develop in the old-fashioned manner, by sight.

The sound negative is equally exacting. Density tracks must be processed to a fixed gamma and area tracks to a fixed density.

It is not sufficient merely to specify to what gamma or density a negative shall be developed; steps must be taken to maintain the desired standard to the closest possible limits. Maintenance of these exacting standards is the responsibility of the sensitometric department.

Typical of such departments is that at George Humphries, which is in the charge of Tim White. Along one wall is a row of Negretti and Zambra recording thermometers, showing the temperature of the developer in each machine, and tachometers showing the speed of each machine. Five photo-electric densitometers enable rapid checks to be made of gamma strips, which are fed through the machines every half-hour.

In this room any change of processing needed by a particular section of negative is noted, and appropriate instructions are given to the men on the machines. Every instruction given is carefully logged.

Control alone, however, will not enable the high degree of consistency to be maintained if the developing plant itself is not adequate. In every modern lab. the principle of continuous circulation of solutions is employed, so that the negative developer is hardly ever thrown away. After all, in the old-fashioned method of discarding a bath when it was exhausted, the indication of exhaustion was obviously some degree of deterioration in the results, which just cannot be afforded. Constant replenishment and circulation, with the most stringent filtering, ensure both consistency and the avoidance of "drag."

The permanent use of baths is made possible only by regular chemical analysis, necessitating the employment of a chemist, for an unexpected change in *p*H or bromide content can offset the effects of any control system. At Denham, Dr. Gloyns has established new standards of chemical accuracy.

Humphries and Kay's also make use of potentiometric measurements.

After the negative is developed it is broken down into sections, and Cinex strips are made, showing the effect of printing it at different light values by means of a series of frames of different density. These Cinex strips are often sent to the cameraman with the prints.

Studio Liaison

The lights with which the various scenes are to be printed are decided. The sections of negative, excluding the NG takes, are then joined up in the order in which they were taken. Before printing, the negative is cleaned. Prints are then made and round about 6 a.m. the first prints are being viewed. The studio representative will himself see these rushes before they are sent to the studio, and he may ask for sections to be reprinted.

The negative is again broken down and the sections filed away in the vaults, carefully indexed.

One must not overlook the services offered by Technicolor, which, it is not unfair to suggest, are so largely responsible for the preeminence of the system. From the inception of a colour production the studio specialists, under George Gunn and Frank Bush, co-operate closely with the camera department and with the art director. Black-and-white rushes are supplied as quickly as by any other lab., and within a short time colour pilots are available.

This then is the machinery by which the studio people are able to see, first thing in the morning, the rushes of the previous day's shooting. Producer, director, cameraman and recordist can be assured that the day's work has been satisfactory before the sets are struck.

But the co-operation of the lab. is by no means finished. As the production progresses the editor will become interested in the consistency of results. The studio repre-

Continued on page 11

The facia of Kay's Laboratories at Finsbury Park

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FORGOTTEN MEN

Continued from page 9

sentative of the lab. keeps in touch with the editor and discusses the day-to-day requirements, such as opticals.

A little later dubbing starts and the lab. man must then keep in touch with the dubbing crew to ensure that the dubbing prints meet with their requirements.

In this connection a valuable service has recently been introduced by the leading labs. The finished sound track may be made up of half a dozen component recordings; each of these will add its quota of ground noise, much of which is due to minute flaws in the image—worst being white dust-spots in an area track. In the newly inaugurated spotting department every inch of track is examined, both visually through a magnifier and aurally through earphones, and any such defect is painted out, in the case of a density track by a bloop, and in the case of an area track by a spot of ink.

The production of small inserts is frequently regarded as a part of the lab.'s job. Technicolor offers the use of a well-equipped studio at Harmondsworth. Humphries also specialises in small shots.

Opticals are an increasingly important part of lab. work. Fades, dissolves, wipes, stretching and shrinking, double-exposure, and numerous other effects are routine; recent developments include travelling-matte work. Humphries is experimenting with a travelling matte process which does not need colour lighting in the studio.

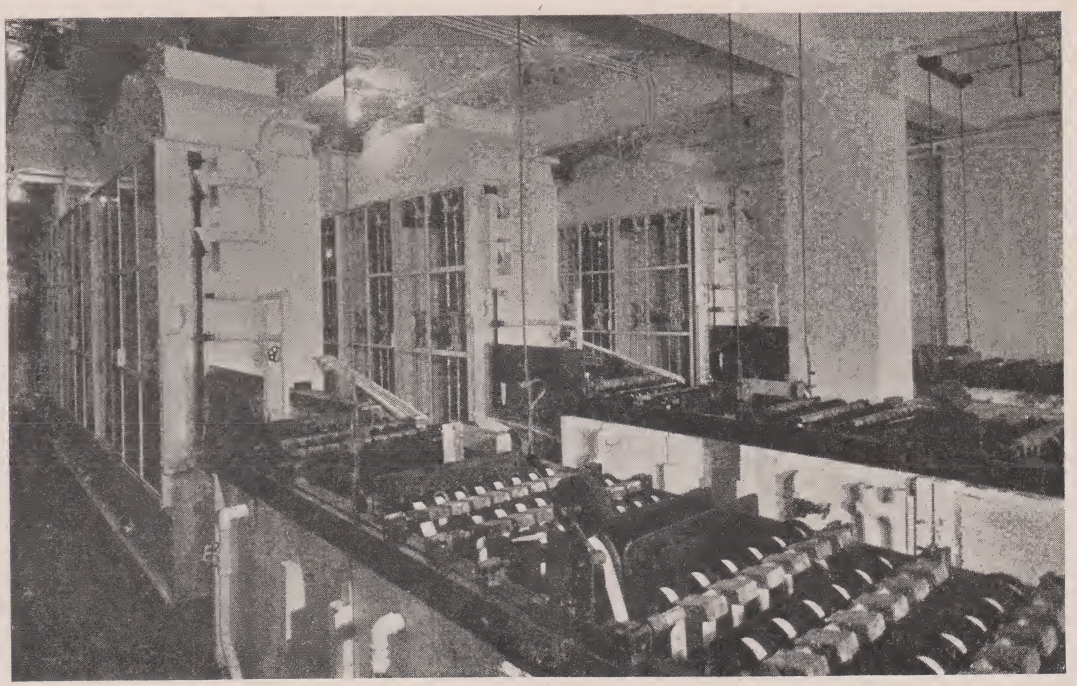
Optical Work

At Denham are two optical printers—one the Acme-Dunn, with all-electronic controls. At Kay's, the Newman and Gardia machine is in charge of A. Brimmer, while at Humphries, Percy Anthony, a veteran of the trade, runs a specially built machine. Among the smaller labs., Studio Film Laboratories has gained a high reputation for optical work.

Titles are an important part of production. While every lab. has its title camera, Studio Film Labs. claims to undertake the majority of titles for British films; C. Francis Parkins was the patentee of the use of a dead black card with silver lettering, which produces a high contrast title.

Finally, when the cutting copy is approved, comes the task of negative cutting, followed by duping. There was a time when a dupe could be distinguished from an original print by its graininess and its soot-and-whitewash appearance; today, thanks to fine-grain stocks and the close degree of sensitometric control, even second generation dupes are practically indistinguishable from the original print.

All this work involves a vast amount of handling of sections of film, and a very thorough filing and index system is essential. Every studio man knows "Johnnie"—otherwise Miss Johnson—who is in charge of Humphries' negative department—and Norah Edwards at Kay's; they operate most comprehensive systems, in which every inch of film is designated by its edge numbers and scene numbers.



View of George Humphries' developing plant in London

Transport is an important factor in providing the elastic service demanded by the studios. Motorcycles have proved an invaluable transport vehicle, and are used by all the labs.

The newsreel side of the lab. has its specialised requirements. AB-Pathé labs. in Wardour Street, which were recently fully described in a KINE. supplement, were specially equipped to handle the Pathé News. Movietone is, of course, processed by Kay's. At Denham, batteries of Vinten printers have been specially installed to print the Gaumont and Universal News, and for a time Paramount.

An increasingly important section of film production and release is the 16-mm. field. What is claimed to be the best-equipped 16-mm. lab. in the country is that of AB-Pathé at Elstree, where 16-mm. has been totally separated from 35-mm. Brent Labs. was one of the first to specialise in 16-mm. work, and a large proportion of its work is in the 16-mm. field. Humphries now offers an overnight service of rushes, while Kay's are shortly starting a night crew for 16-mm. work; Kay's also has optical facilities. At Sydney Wake, Ltd., Denis Cantlay has made a close study of the requirements of 16-mm.

Another service performed by the labs. is film preservative treatment. To an increasing extent, edge-waxing, which has been the subject of recommendation from the Print Damage Advisory Committee, is carried out actually on the processing machines. There are, however, several labs. who offer their own processes; Henderson's was easily the first to undertake such work; Humphries has for years operated its own process; while Peerless, Recono and Griffin are known primarily for their preservative processes.

Yet another aspect of lab. service is the imposition of foreign titles upon prints, or English titles upon foreign prints. One method is to double-expose the print upon a Debrie printer. Ideal Laboratories operates a process by which the lettering is etched in acid upon the print, so avoiding the cost of a special negative and special prints.

Not the least important part of a lab. is its staff. Our labs. probably include a larger proportion of veterans of the industry than any other branch of the trade.

At Denham, W. M. Harcourt and George Barker head a number of specialists, of whom Walter Sadler, chief engineer, started in the trade in 1911. Like Bill Harcourt, Randal Terraneau, head of Humphries, started as a cameraman; Alf Darby, who started with Mr. Terraneau, has recently been made a director; another director, and manager of the plant, is W. G. Murray, and Harry Woolf is sales manager. At Kay's, most of the staff has been with the firm for many years. R. Henderson and his manager, C. Fry, are, like C. Winterman, of Brent, veterans of the industry. C. F. Parkins, of Studio Film Labs., who has himself spent his life in the lab., has several people who have been with him since he started in business.

Hollywood Idea

From Paramount in Hollywood comes an idea, put into operation by production chief Don Hartman, which, it is claimed, saves time and money.

The idea is described as a visual method of film structure by which sketches geared to any type of shot are inserted into a rough-cut in place of the usual scene-missing card, thus giving an impression of the missing scenes and the footage required in shooting them.

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THE long, uninterrupted takes of television production necessitate the utmost mobility of the cameras. Two advances leading to greater freedom of movement have been introduced in television production at Lime Grove; the tendency in film production towards longer takes will necessitate similar advances in the film studio.

First is the provision of perfectly level floors, enabling the camera to run smoothly in any direction. The wood floors of the stages are being replaced by a concrete foundation, on which wood blocks are secured by pitch; these blocks are levelled by a sanding machine, and are then covered by high-grade linoleum. The result is a floor which is claimed to be level to within $\frac{1}{16}$ in.

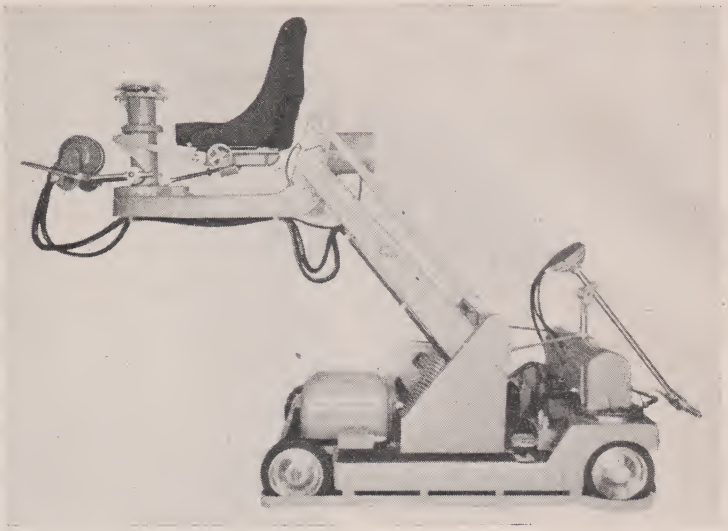
Full advantage can be taken of these level floors by mounting the camera on the new Vinten-powered dolly, which has automatic movements for backward and forward motion, and for lifting and panning the camera.

In appearance the new dolly is not unlike the Pathfinder crane. The two rear wheels have automobile-type steering, controllable by a tiller; each is driven by a separate motor. On the tiller, the left-hand grip has a "dead man's switch," which prevents the dolly running away should it be left unattended; the right-hand grip rotates to give various speeds, up to 3 m.p.h., forward or backwards, according to which way it is turned.

The wheels turn to a right-angle, so that the truck can turn almost in its own length; they have no brakes, but a rapid movement of the right-hand grip beyond the dead point serves the same purpose, by applying reverse current to the motors. If the grip is moved only to the first position, sufficient current is fed to the motors to enable the truck to be easily pushed, but not to move by itself. The wheels are protected by guards which prevent cables being run over. Jacks are provided for stationary shots.

The camera, with its operator, is mounted at the end of the crane arm; the bucket seat has vertical adjustment, and the camera can be adjusted towards or away from the operator for the most convenient position.

The operator has two pedals.



The Vinten-powered dolly, showing its crane-like design

The left-hand pedal serves to raise or lower the camera, and the right-hand pedal to rotate it. The speed and direction of either movement is controlled by the position of the pedal, and, of course, the two movements can be operated together. The camera can be elevated to a height of about 6 ft. 4 in., and lowered almost to floor level; automatic limit switches prevent any movement overshooting.

Perhaps the most striking feature of the new dolly is its silent operation. It is fed from the 110-volt DC lighting mains, and the large, totally enclosed, motors operate with a hardly audible hum. Notwithstanding its versatility, the truck is very compact and will pass through a door on the set, the width being only 3 ft. 4 in. The weight is about 15 cwt.

It is hoped eventually to mount most of the cameras at Lime Grove on powered dollies, which show enormous advantages in production.

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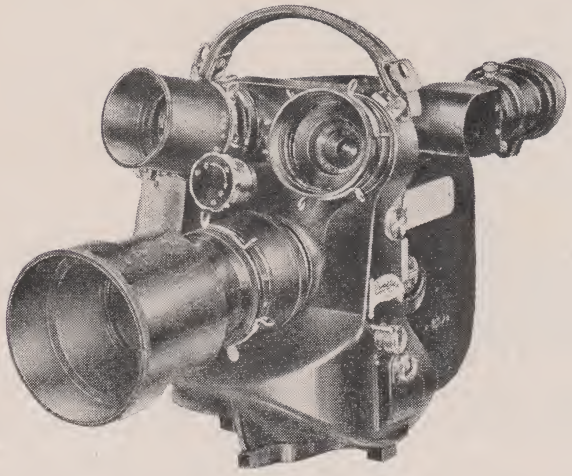

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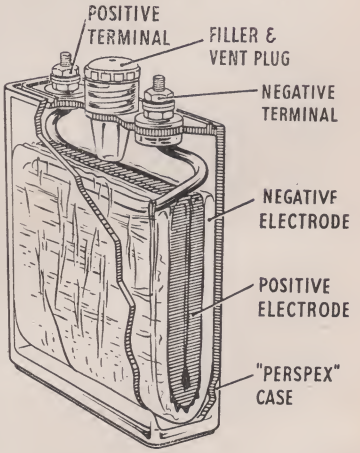
The accumulator is half the size and one-third to one-fifth the weight of that of other accumulators of similar capacity. But for many uses its principal advantage is the ability to withstand very heavy discharges, so that, as mentioned, a diminutive battery will suffice to run a heavy load for an hour or two. This is possible because the electrodes cannot buckle and there is no active material to fall from the plates.

Equally important for many purposes is its consistent voltage. Particularly when run at a heavy discharge rate, the voltage remains constant after quite a short time at 1.5 volts per cell, which is maintained until towards the end of the discharge.

Cells are made in a variety of



sizes, from a tiny cell having a capacity of $\frac{1}{2}$ amp.-hour and measuring only 9/16 in. x $1\frac{1}{2}$ in. x $1\frac{1}{8}$ in., up to a 40-amp.-hour size, measuring 2 in. x 5 1/16 in. x $4\frac{5}{8}$ in., and weighing 1 lb. 15 oz. Thus, a 12-volt 40-amp.-hour battery measures only 8 in. x 5 1-16 in. x $7\frac{7}{8}$ in., and weighs 14 lb.

At the Olympic Winter Games at Oslo the lightweight Venner accumulator proved of outstanding service to those cameramen who included it in their equipment. The accumulators stood up 100 per cent. to prevailing conditions, which were, of course, unusually severe.

THEY DRAW SATIRE WITH SOUND

NEW ideas in photography, in use of sound track and in equipment are being applied by Halas and Batchelor in the making of the full-length cartoon version of the satire "Animal Farm," they are making it for Louis de Rochemont Associates, of America, whose representatives, Lothar Wolff and Joseph Bryan were in England last week to observe progress.

KINE. Studio Correspondent Graham Clarke visited the new studio at Westbourne Terrace, W.2, which John Halas and Joy Batchelor have opened in order to cope with the sudden expansion of their activities occasioned by "Animal Farm." The number of artists and animators, for instance, has risen from 25 to 75.

The premises at Westbourne Terrace are given over mainly to animation and the other earlier processes in the production of a Technicolor cartoon, such as the preparation by John and Joy of what they call their "story board," in their case photastat sheets of 1,600 drawings that tell the visual story of the written script they had already prepared from the book.

Fixing of the actual characters —there are 44, including 26 animals, actually took months of experiment to produce definite personalities that can be drawn with equal facility and continuity by more than one artist. When "Animal Farm" is completed it will be in 80 sequences, containing something like 250,000 separate drawings.

Music is being composed by Matyas Siber. Where the score is part of the script it is being recorded first and the cartoon will be fitted to it: where the cartoon action is the more important, then the music will be recorded afterwards and fitted to the visual and sound track.

In the matter of sound, John and Joy, with Maurice Denham, whose voice is largely used, have evolved a fascinating example of what, for want of a better word, can be called impressionism. The speech of pigs, for instance, is pig-like in intonation, but is founded on human sentences. John played a portion of a pig-speech for me and I was able to follow the words with the aid of the script. John's name for it is "slight gibberish."

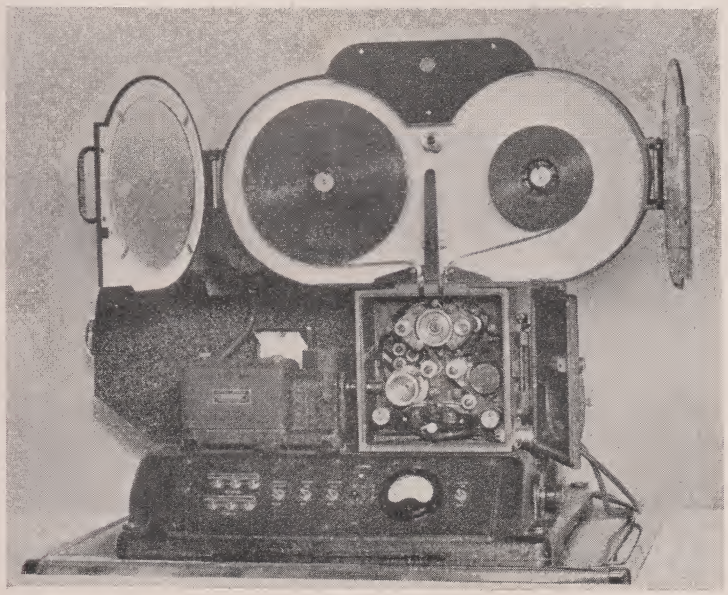
As it is not expected or intended that the audience will be able to follow the meaning as clearly, there will be occasional sub-titles, thus, claims John, heightening the impression that the animals are speaking a foreign language. Another impressionistic idea that is being used to implement the satire of the story is that, as the pigs grow more successful and more greedy, so their speech becomes more recognisably human, until, in their moment of final degradation, their voices are entirely human.

Simultaneously with "Animal Farm," John and Joy are making a puppet film, called "Figurehead," in which they are experimenting with model backgrounds. They are also using here, for the first time, polaroid screens as a means of obtaining colour changes and from this experiment has developed a highly successful use of polarisation in "Animal Farm."

One of the inherent faults of cartoon films in projection is the "flicker" which results from light reflected from the transparencies when they are photographed. By using polariod screens, both in front of the camera lens and in front of the lamps, John believes that he has eliminated this fault which can, in extremes, be distracting and annoying to an audience. To get the same key as he would without the screens he has to use 2½ times the normal amount of light—but it is worth it.

"Animal Farm" is due to be finished next February. The budget will be, according to Lothar Wolff, much the same as an ordinary feature film.

Two of the 44 characters in ANIMAL FARM. Right: Farmer Jones, showing how the humans resemble beasts. Above: Benjamin the donkey, showing how human the animals are made



The RCA photo-magnetic recorder, fitted with LM1-68 magazine

RCA Magnetic Recording

MAGNETIC sound equipment which envisages the retention of the magnetic record up to the stage of production of the final negative is being offered by RCA. The apparatus ranges from an adaptation of a photographic recorder up to a rack-type equipment, intended for the dubbing theatre; in all cases perforated film is used, eliminating problems of synchronism.

Already a number of PR23 recorders and 9031 follower heads have been converted to magnetic. The major alteration is necessitated by the fact that at the recording point the film must be in tension in order to make contact with the magnet head; this requirement involves the modification of the film path. The film magazines are fitted with transparent doors.

In the amplifier it is necessary to provide an oscillator for the supersonic bias current, and networks to equalise the characteristics of the magnetic track. The converted equipment can be used equally for photographic and magnetic recording.

A forthcoming portable equipment, known as the PM62, will accommodate either 35-mm. or 16-mm. film. The complete outfit, contained in four cases, weighs 300 lb. A smaller version, known as the PM64, comprises only three cases.

The adaptability of the magnetic track to dubbing and re-recording is demonstrated by the PM63 rack-mounted equipment. This has provision for recording three 200-mil tracks across 35-mm. coated film. While provision is made for erasing, the construction prevents a possibly valuable recording being inadvertently erased.

PHASES OF FILM ARCHITECTURE

Three approaches to architecture in films, the realistic, the romantic and the impressionistic, were discussed by Ronald Bradbury, Ph.D, FRIBA, AMTPI, in a paper, summarised here, given to the Merseyside Film Institute Society.

WHEN I go to the kinema, I cannot help being interested in, and, indeed, criticising or commenting upon, the use to which the film-makers have put the art of architecture in producing their films.

I think we can say that as a general rule, where a film is screened with the representation of the life and actions of people in any urban community, the producer will fail if he does not make the fullest use of the architectural background.

The kinema, like the theatre, tends to deal with limited facets of the human scene. The film-writer, the film director and producer select from the wide panorama of human activity—past, present and future—a particular facet of life around which to build their film. Here, we might pause to consider just what the ingredients are in the case of a feature film. First and foremost there is the story, the central theme, the message which the sponsors of the film wish to put across. Next come the actors and actresses with their costumes and make-up. Next, the décor, which embraces not only the setting and background against which the actors and actresses portray the story, but also the way in which that setting is lighted and photographed. These are the bare bones of the kinematic art. I only propose to try and deal with the décor.

Basic Approaches

There are, I think, three basic methods of approach to the problem of providing appropriate settings for any film—the realistic, the romantic and the impressionistic. There are many possible permutations and combinations of these three approaches open to the film producer. For example, he may decide, as in such films as "The Clouded Yellow," "The Lavender Hill Mob," and so on, to be extremely realistic and to use actual buildings and familiar places as the background against which his actors live out the drama or comedy. But, whilst he may use actual existing architectural backgrounds, he can photograph them in a realistic way, romantically or impressionistically. Similarly, whilst setting out with the avowed intention of adopting the romantic approach, he may decide to photograph the sets quite realistically. Realism sets out to show things as they are.

There have been many fine films produced in this country with their whole atmosphere centred around the ordinariness of our everyday architectural environment. One may perhaps regard the realistic approach to architectural background as consisting in the main of a valuable use of "under-statement." The very ordinariness of the suburban or urban scenes used, emphasises the everyday quality which it is the producer's aim to impart.

Realism takes the actual and familiar as the background of the story, but, as I have already said, the realistic architectural background can be treated in many different ways.

When we attempt to define the romantic approach, we step into very deep waters indeed. Romanticism consists in a high development of poetic sensibility towards art and architecture. It idealises the past, and tends to identify beauty with strangeness. It casts on the screen of an imaginary past, the projection of its own unfulfilled desires.

Rose-Coloured Glasses

Romanticism looks at the past through rose-coloured glasses. There is no squalor in the baronial halls, no dogs quarrelling among the thick beds of rushes for the bones and offal thrown carelessly from the dining tables—everything is very hygienic and up to date in a mediæval sort of way. Even the Russians with such films as "Ivan the Terrible" also romanticise the past. Not only is the general approach romantic in its attitude towards the people of olden times themselves, but also romantic in its conception of the architectural background in which they lived. Although the buildings are picturesque, they are simplified and very much more visually exciting and better lit than the actual buildings of those times really were. There has, to my knowledge, never been a film about mediæval times which set out to be really realistic. There seems to be something about the dark ages which brings out the romanticist in every film producer, and the design of every film set. Mediæval buildings must have been pretty horrible to live in.

Now, romanticism in film architecture is at once a great strength and a great weakness. Realism and "under-statement" are excellent in their proper place, but all of us have a great yearning for fairy-tale atmosphere. There are very few films which are not tinged with romanticism. Hollywood's re-creation of Imperial Rome in "Ben Hur." "The Sign of the Cross" and such other epic productions would have astonished the average Roman citizen if he could be born again to see them. Exact archæological reconstruction would not have been sufficiently romantic.

The romantic approach to architecture is difficult enough to define, but the impressionistic is even more difficult. There is an element of caricature and exaggeration in impressionism.

Many directors and producers have seen the emotional possibilities of the impressionistic approach to the architectural background, as well as the content of films. Impressionism is an accepted technique for designing architectural background, and it has been adopted with success in many films.

There have been many examples where the impressionistic approach to architecture has been adopted for the films, not only in such historic pictures as "The Cabinet of Dr. Caligari" and others produced by Germans and Russians in particular, but also on a lower, but equally successful, level in American musicals. Impressionism, as its name indicates, relies on suggestion rather than actuality. The architecture is simplified, and its parts are often exaggerated to give a sense of scale and drama. Skyscraper backgrounds may lean at extraordinary angles, and the tumbled-down picturesque quality of old buildings may be extraordinarily pronounced. At the extreme end of the scale, one has only to think of Walt Disney's architectural backgrounds.

Now, whatever the approach to architecture adopted by the directors and producers, there are several fundamental things about architecture which must be noted if the fullest appreciation of the success or otherwise of the architectural décor is to be obtained. First, the buildings have outsides and insides, for architecture is, after all, nothing but an intelligent and artistic enclosing of space. There is a very great emotional content to be found in the way in which one space or one room relates to another adjoining room. This is brought out in films to an enormous extent by tracking shots where the camera, that is, the viewpoint of the spectator, moves freely about the interior of a building or down a street following the movements of the actors. It is here that the film scores so greatly over the theatre with its single angle of view for the spectator.

Light itself can be used realistically, romantically or impressionistically, but even when realistic lighting is used, there is still scope for imaginative treatment—light coming through the window blind may cause a pattern of prison bars, thus widening the dramatic content of the scene.

In any of the historic styles, when one attempts to reconstruct the past, however, and to build sets for a specific film, it is extremely easy to become inconsistent, and several historical films have been ruined for me because architectural design motifs or fitments or furnishings have been used which I know were not invented at the time the film is set. Nowadays, producers are very conscious of the ease with which mistakes of such inconsistency can be made, and it is usual for them to appoint an historical or archæological expert to advise them on such matters.

The Technicolor Way—*Continued*

Technichrome made the process acceptable for this purpose. I am assured, however, that the process will not be revived unless a similar occasion demands it.

What of the future? Dr. Kalmus has recently made an important pronouncement as to the future policy of the company in America. The output of the Hollywood plant is, he states, being increased by 50 per cent., involving an expenditure of 2,000,000 dollars, the output of release prints then reaching the enormous figure of 600,000,000 ft. per annum.

Dr. Kalmus has, furthermore, made an important offer of even closer co-operation with users; he has offered to make the process available to other laboratories under licence and to instruct their technicians in its use. He has also undertaken to provide the capital investment necessary to increase still further the capacity of the company's own laboratories should this prove necessary, and even to consider the adoption of any other process. The idea behind the last point is presumably to be able to offer a monopack camera material for printing on to Technicolor.

Kay Harrison is not prepared to state whether or not this broadening of the Technicolor service is applicable to this country. Of recent years the output of the laboratory has been increased enormously, but it still seems insufficient to cope with ever-growing demands; presumably the existing restrictions would prevent any further development at the moment.

Whatever may be the future plans for this country, one thing is, in my opinion, certain: that, leaving aside all questions of colour quality, for any production in which a reasonable number of prints is required, no other subtractive process can compete in cost with an imbibition process which uses as its raw stock uncoated film.

Gevacolor's Paces

Continued from page 6

since each printing operation gives rise to a loss of colour values. He anticipated that the difficulty might be overcome eventually by the method of making a negative by reversal, by direct printing from the original.

In the meantime, the process is, so far as this country is concerned, restricted to small-scale production where duping can be dispensed with. In the case of the two features which formed the subject of the demonstration, the method had been adopted of ensuring two satisfactory takes of every scene, all special effects being produced in the camera.

THERE'S GOLD IN THEM "B" FILMS

says JAMES CARRERAS

(Managing Director of Exclusive Films, Ltd.)

THERE'S gold in them "B" films—and it is in the form of golden dollars! Official announcements made this month by the production heads of Warner Bros. and 20th Century-Fox that their companies are in future going to cut out what they class as "B" product and concentrate on bigger, but fewer films, in fact, follows a trend that way which is already in being in Hollywood, and is now having its effect in American kinema programmes.

From the point of view of a British production company like Exclusive it is the best news that we have had for a long time.

It has happened at a moment when we are at the peak in quality and entertainment value of low-budget British pictures, and opens up a vast new field of dollar-earning capacity that was hitherto closed to us or, at the best, could be approached only through a stout barricade of keen competition complicated by some isolationist prejudice and the fact that Americans used to complain that British films were made in a foreign language.

All that is changed now, or is, at least, in the process of being changed greatly to our advantage.

Not so very long ago Exclusive pictures like "Cloudburst," "The Last Page," "Whispering Smith Hits London," "Wings of Danger" and "Stolen Face" would have been very lucky indeed to get a general release in the States, in spite of the attraction of their American stars, would have been relegated straight to television and would have earned only a tenth of what they bring back now.

Now such pictures are welcomed by American distributors and exhibitors (RKO Radio and United Artists are among the renters handling them) because there are still thousands of situations in the States where the public likes and demands a supporting feature.

Incidentally, I have yet to meet the man who can give a really definite answer as to what is the exact dividing line between an "A" picture and a "B" picture. The difference is always arbitrary, as shown by the fact that, not only do some Exclusive films play top of the bill in British situations, but that one, at least—"Man Bait" (called "The Last Page" here)—has done so in Canada.

That is just one more piece of evidence proving that the type of picture we make—we prefer to call it a co-feature—now has the greatest chance ever offered to it. There has never been such a shortage of these pictures as there is at present; and it is not only America that is crying out for them.

The Exclusive production team. On the right is James Carreras and with him are (left) his son Michael and (centre) Anthony Hinds

Why Be Ashamed?

Exclusive now turns out an average of seven features a year. If we turned out 18 a year the market could easily absorb them. The only limiting factor is scripts: if we could find enough really good scripts we would consider stepping up our output to 14 films a year.

Exclusive has never been ashamed of the fact that it makes what the American moguls call "B" pictures. There is, of course nothing to be ashamed of.

Everyone who makes pictures commercially obviously has two main objects: the first is to make money, and the second is to entertain the public. The two objects cannot be separated for, if your pictures do not entertain, the public will never pay the money to see them.

The double feature system of exhibition in this country is firmly entrenched. There is, and surely will be for years, a steady demand here for the so-called "B" picture made on a budget that is only a small fraction of the cash that goes into an epic, and consequently, far more easily able to recoup its production outlay in our limited home market.

From the earliest days of the industry competition has made it impossible to keep to the single-feature programme. The exhibitor who offers his patrons just a little bit more than his neighbours has always drawn the custom, and so it will go on—to the benefit of the maker of co-features.

Even when you offer the biggest of big epics, the public still expects just a little something with it.

This moment is our great opportunity.

For a long time the big American production companies were fairly sure of getting their money back on first features by showing in the States alone, and had been able to regard receipts in Britain as a most acceptable and pleasing bonus. That is not so true now; and we are being given our chance to get some of our own back.

The British "B" picture today has nothing to fear by comparison of quality with its American counterpart.

Now that Hollywood is voluntarily liquidating our main source of competition we can look forward to a period when British supporting films will be able to earn their keep in the home country and make a valuable contribution both to the national economy and to the financial security of British production by bringing back some of the Gold from them thar Beverly Hills!

The Coronation Is Reel News

HOWARD THOMAS, **producer-in-chief of AB-Pathe, describes how the newsreels are preparing**

WHEN it comes to drawing-power there is one film subject at least upon which exhibitor and producer never differ—a great Royal occasion. A Royal marriage—a Royal tour—or now, the greatest audience attraction of all, a Coronation.

Feature producers are already asking us to forecast the release dates of the Coronation films, for they know well enough that if they can get a showing during those weeks their own share of the box-office will be a handsome one.

As for the eagerness of exhibitors, this is best exampled by the decision of the general council of CEA to set up a special committee to work alongside the newsreels in presenting this single event.

In these days when every extra element is needed to stimulate our business it is worth examining the "pull" of Royal films. Newsreels are sometimes criticised for carrying too many stories of the Royal Family, yet whenever an editor cuts down on such stories there are immediate protests.

When there is an outstanding Royal story the newsreels simply cannot supply enough film to satisfy the demands of the public or the exhibitor—the three-days life of a newsreel and the Government-rationed 700-ft. reel are all to short for an exhibitor. The natural outcome is the practice of helping the exhibitor by producing an additional and fuller film to run as long as he likes. Thus, the exhibitor can reach the public with immediate news pictures whilst the story is still in the papers and then he can continue to fill his kinema with a detailed and more leisurely presentation a few days later.

Attraction Holds

It was no surprise that the newsreel coverage of the wedding of Princess Elizabeth aroused such interest that the public virtually insisted upon full-length versions after they had already seen the newsreels. Nor were exhibitors astonished that the Royal Tour of Canada, although carried by all the newsreels for several weeks, was successful again when compiled into a single film.

These joyful occasions made good pictures. Less expected was the remarkable interest in the pictures following the death of King George VI. All the newsreels produced four complete editions of the events, yet there was not the slightest flagging of interest. My own company produced, in addition, as a service to exhibitors, a special tribute, "The King Who Loved His Family." I made this two-reel film within 24 hours of the announcement of the King's death and it was showing in hundreds of kinemas the following Monday. There was a most unusual response at the box-office and it was enlightening to find the film continued to attract for weeks after the events had faded from the newspapers.

An important point about the attraction of these Royal films is that they bring back some of "the missing millions." Many of those who lose the kinema habit once they marry and have families are brought back by films like these Royal chronicles, and it seems to me that the industry should make a special effort during the presentation of such films to hold on to those patrons of yesterday. Such films appear to have an irresistible appeal to middle-aged and older people, and it would be good business to design special trailers which would encourage these spasmodic kinemagoers to come more often to future presentations.

For these reasons the Coronation films will have a tremendous value to the industry as a whole. Newsreel companies are only too well aware of this and already many preparations have been made, although the event is still a year away.

Mammoth Job

Not that the newsreels have needed any urging on this, because even their sharpest critics have admitted that the reels have shown a renewed vitality and improved tremendously since competition returned and kinemas had a free choice of newsreel. Traditional stories like Trooping the Colour and the Grand National have been presented with zest and showmanship, whilst news breaks like the Carlsen Story excited approval everywhere.

The filming of the Coronation will be a mammoth job because there will be dozens of possible and desirable positions *en route*, as well as the filming in Westminster Abbey itself. This time there will probably be a doubling-up of cameramen at many points because of the decision of the two leading companies to make a full colour record. I estimate that the newsreel companies will have more than 100 cameramen on duty that day.

Of course, every newsreel would like to present the full picture in colour as part of its normal record, but this is physically and economically impossible. There will be a frenzied competition to be first out with the black-and-white newsreel pictures, and it will be a question of how few hours the first prints will take to come off the printing machines and on to the kinema projectors. With colour it will be a question of days or even weeks before the elaborate processes of developing and printing in three colours can be completed. Again, a newsreel print costs £5 10s. A single print of a three-reel colour version will cost £60.

And Then Colour

So, to give the maximum service the newsreels will produce extra-long editions of the Coronation edition for release customers within 24 hours or less. The colour versions will follow within as few weeks as possible.

A fabulous amount of film stock will be used because the newsreel companies will both combine and compete to obtain their detailed coverage. There are certain points along the processional route where there will not be space for more than two or three cameras, and here the newsreels will have to agree to share. This is a disadvantage, because the striking of duplicates and their circulation to other newsreels slows down the process of production. The reels prefer to have their own individual coverage wherever they can.

Almost all the camera positions will require special authorisation. The Abbey authorities, the Ministry of Works, the police and other organisations have this task of apportionment, an unenviable duty which is tackled with understanding and skill. Imagine having to share a coveted position on the top of a monument among five newsreel cameramen, colour-film cameramen, television, still photographers, and the other "accredited" representatives of all nations who will be swarming around London.

Here the goodwill of the newsreel companies will stand them in good stead. The processions following the death of George VI provided a classic example of successful collaboration with the authorities. What must at times have seemed to be extravagant demands were very reasonably received. After the event, special screenings were arranged for leading officials from Buckingham Palace, the Ministry of Works and Scotland Yard. Those concerned were highly interested to study the results on the screen, to criticise the efforts of their own departments, and to see how the newsreels utilised the facilities granted to them.

It was especially pleasing to hear compliments paid not only to the dignity with which the events had been presented on the screen, but also to the exemplary conduct of the technicians employed by the newsreel companies at the various places of vantage.

Experience Tells

For the first time, too, the newsreels were permitted to film a Lying-in-State, with the difficult conditions that there should be no sound of cameras, nor artificial light. The success of this experiment resulted in yet another advance in the facilities granted to the newsreels.

Lighting will be one of the problems in Westminster Abbey, especially as two companies, Gaumont and Pathé, hope to be filming in colour. Permission to film in the Abbey can be granted only by the Coronation Commission, with the final approval of Her Majesty, and it is obvious that there must be drastic limitation of the number and positions of cameras. Once again it is expected that the problems can be solved through the experience and understanding of the Abbey, Palace and Ministry authorities, and the newsreel companies.

Today the newsreel companies are far better equipped than they were for the last Coronation pictures. Finer cameras and lenses, with improved lighting, will guarantee pictures worthy of a historical occasion. Technical standards are high. The use of natural sound, too, has advanced and most newsreels have disregarded the indiscriminate background of music. Few kinemagoers will forget the sound

Continued on page 12

PERCE PEARCE

WHETTING DISNEY'S "SWORD"

By Perce Pearce

PRODUCER OF "THE SWORD AND THE ROSE"

WALT DISNEY

WE are now hard at work at Pinewood Studios planning and preparing Walt Disney's third British Technicolor production, "The Sword and the Rose." Starring Glynis Johns and Richard Todd, with James Robertson Justice and Michael Gough, it will go before the cameras on August 5.

But the initial conception of filming this historical romance took place in Hollywood as long ago as autumn, 1951. Following the world-wide success of his first two British all-live Technicolor films, "Treasure Island" and "Robin Hood," Walt Disney decided to make a third film in Britain. Again, he wished to choose a subject which was original, lively and particular to Britain.

A classic and best-seller in America is Edwin Caskoden's book, "When Knighthood was in Flower," published in 1898. It gives a gay and sparkling picture of court life in the early days of Henry VIII's reign, a period largely neglected by historical writers and film-makers alike. Set against the majestic backgrounds of Windsor Castle, the Tower of London, and Greenwich Palace, this seemed the ideal subject choice and a fitting tribute to show in Coronation Year.

Disney sent for historian Dr. Charles Beard from London to start primary research, and last December I started work on the script in Hollywood, with writer Lawrence Watkin.

We decided to open the story in 1515, when Henry VIII had ruled for six years, was happily married to Queen Catharine of Aragon, and was the idol of his people. Toast of the court was Henry's sister, Mary Tudor. This 17-year-old beauty, gay, kittenish and wilful, could coax practically anything from her Royal brother. But Henry, even in his young days, was a clever statesman. Though Mary had fallen in love with Charles Brandon, a commoner, newly returned from foreign wars, Henry married her off to doddery Louis XII of France.

The story, both in fact and on the screen, has a happy ending.

For months minute historical research was carried on, to ensure complete accuracy in every field. We show a lawn tennis game between Mary Tudor and Lord Buckingham, which is played with short-handled racquet and ball of tightly wound cloth. At Mary's May Ball Charles Brandon introduces a new dance, "La Volta," which scandalises straghtlaced Queen Catharine.

Contemporary documents, such as the Revels Accounts, secretary Cavendish's "Life of Wolsey," and the first volume of "Letters and Papers of Henry VIII" gave a vivid picture of life at court, which we aim to reproduce faithfully on the screen.

In March this year we engaged Carmen Dillon to work as art director and sent her a draft of the script. She started work at once, on research and preliminary sketches. Much of the action takes place at Windsor Castle, which has practically been rebuilt since Henry VIII's day. Sketches by Wyatville of Windsor made in 1815, which show Windsor before and after this reconstruction, have been most helpful. So have the Ashmold engravings published in 1670.

More difficult was the task of recreating the old State Apartments at Windsor. Using St. John Hope's architectural history of Windsor, and with the help of contemporary engravings, "Doc" Beard spent two weeks making 30 sketch plans of the old Royal apartments.

Carmen Dillon has used this architectural survey as basis for all interior designs, which will reproduce exactly the plan, shape and feeling of Old Windsor.

In May Lawrence Watkin and I came to England for stage two in the pre-production plan. We settled down to write the final script. Disney signed Ken Annakin again as director.

For some time we had been mentally casting and had thought Glynis Johns the perfect choice as Mary Tudor. Since her stage début on Broadway Miss Johns had married an American and settled in New York. Disney signed her for the part, and it was arranged that she should come to England in June to prepare for the picture. Co-starring is Richard Todd as the gallant Charles Brandon. The third important rôle, Henry VIII, goes to James Robertson Justice.

Now, at Pinewood, I am assembling an all-British unit. Many will be familiar faces who have worked for Disney before on his previous British films. Douglas Peirce is again production manager, with Maude Spector as casting director and Geoffrey Unsworth as lighting cameraman.

Now we are testing artists for other important parts, discussing make-up and hair styles, and planning music.

The principal artists have joined in this pre-production plan, too. Miss Johns is having daily riding lessons to practise side-saddle riding, and daily tennis coaching with ball and racquet of Henry VIII's period. Richard Todd is learning wrestling and taking fencing lessons. James Robertson Justice is training his falcons to use in a hunting scene. Michael Gough is learning wrestling and Tudor tennis. David Paltenghi is devising choreography.

We hope "The Sword and the Rose" will fulfil our hopes and be an important contribution to kinema entertainment during Coronation Year

CURRENT PRODUCTION CHART

STUDIO AND SUBJECT.	STARS.	DIRECTOR.	LIGHTING CAMERAMAN.	PRODUCER AND RENTER.	WEEKS ON LOCATION.	PROGRESS ON STAGES (WEEKS)
EALING—Ealing 6761						
"Titfield Thunderbolt"	Stanley Holloway, George Relph, John Gregson	Charles Crichton	Douglas Slocombe	Michael Truman: GFD	1	3
"Cruel Sea"	Jack Hawkins, Donald Sinden, Virginia McKenna	Charles Frend	Gordon Dines	Leslie Norman: GFD	4	—
ELSTREE (ABPC)—Elstree 1600						
"Top Secret"	George Cole, Oscar Homalka, Nadia Gray	Mario Zampi	Stan Pavey	Mario Zampi: Associated British	—	6
MERTON PARK—Liberty 4291						
"Hindle Wakes"	Lisa Daniely, Brian Worth	Arthur Crabtree	Geoffrey Faithfull	W. J. Gell: Monarch	—	1
M-G-M (BRITISH) Elstree 2000						
"Never Let Me Go"	Clarke Gable, Gene Tierney	Delmer Daves	Bob Krasker	Clarence Brown: MGM	2	—
NETTLEFOLD—Walton-on-Thames 2414						
"Pickwick Papers"	James Hayter, Nigel Patrick, Kathleen Harrison	Noel Langley	Wilkie Cooper	George Minter: Renown	4	7
PINEWOOD—Iver 700						
"Made in Heaven"	David Tomlinson, Pet Clarke, Sonia Zieman, A. E. Matthews	John Paddy Carstairs	Geoffrey Unsworth	George Brown: GFD	1	6
"The Long Memory"	John Mills, John McCallum, Elizabeth Sellars	Robert Haler	Harry Waxman	Hugh Stewart: GFD	2	1
SHEPPERTON—Chertsey 2611						
"Gilbert and Sullivan"	Robert Morley, Maurice Evans, Eileen Herlie	Sydney Gilliatt	Chris Challis	Frank Launder and Sydney Gilliatt: British Lion	—	10
"Folly to be Wise"	Alistair Sim, Roland Culver	Frank Launder	Jack Hildyard	Sydney Gilliatt and Frank Launder: British Lion	—	3
"An Appointment in London"	Dirk Bogarde, Dinah Sheridan	Philip Leacock	———	Aubrey Baring, Maxwell Setton: British Lion	—	—
SOUTHALL—Southall 3281						
"Laxdale Hall"	Ronald Squire; Raymond Huntley	John Eldridge	Arthur Grant	Alfred Shaughnessy: ABFD	2	—
"To Tell You the Truth"	Robert Beatty; Mervyn Johns	C. Pennington-Richards	W. Suschitzky	Colin Lesslie: ABFD	—	3
RIVERSIDE—Riverside 3012						
"The Pledge"	Valerie Hobson, Edward Underdown, James Robertson Justice	John Gilling	Monty Berman	Monty Berman, Robert Baker: Tempean Films	1	4

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MAGNETIC STAKES ITS CLAIM

MAGNETIC recording has now firmly established its position in film making, so far as primary recordings are concerned. Magnetic channels are installed in practically all studios, and the leading manufacturers offer equipment capable of producing either magnetic or photographic tracks.

A short while ago we were debating the respective advantages of tape and perforated film. Today it is seen that each has its place. A striking example of the value of perforated film in the newsreel studio was given a couple of months ago, when W. S. Bland, Associated British-Pathé's chief engineer, demonstrated the use of his RCA magnetic recording gear.

For location work, on the other hand, the compactness and portability of the tape recorder make it eminently suitable. It was first used, so far as feature work was concerned, on "Where No Vultures Fly," and has since been used for two more similar films.

First was "Saturday Island," during the filming of which Jamaica was struck by a terrific hurricane, which scattered the equipment but caused no damage, although buildings were smashed. More recently, "Man Against the Sun" has been recorded by Bill Howell in Kenya; the recording of animal noises is stated to be particularly realistic.

Sync. Problems

In all these cases the equipment used was made by Leevers-Rich. Problems of synchronism with the picture have apparently been overcome by the "Synchropulse" system, whereby a separate pulse record on the tape, derived from the picture camera, effects synchronism, even in the absence of AC mains.

One objection formerly urged against tape is its liability to print-through of heavy modulation from layer to layer in the reel.

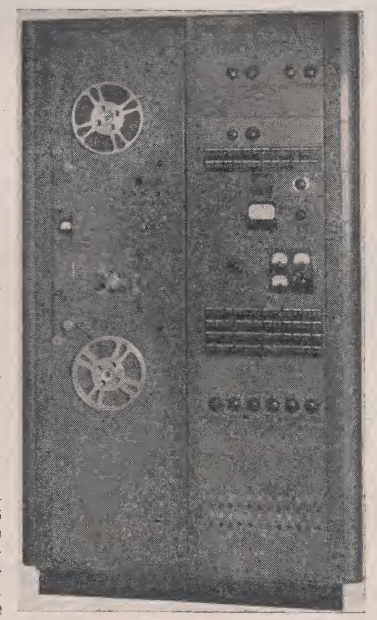
It is now accepted that a single erasure on the recorder is not sufficient, with modern tape, to erase completely the heavier modulations. A bulk eraser has been introduced by Leevers-Rich, the first model of which was demonstrated at the recent exhibition of the British Sound Recording Association. The equipment is simply switched on, the spool of film or tape is dropped on to the spindle and rotated two or three times by hand, and removed before switching off. The tape is thus subjected to a powerful alternating field, which effectively removes any previous recording.

An aspect of magnetic sound in which we probably have not reached finality is, how soon is the sound to be re-recorded to a photographic track. The general practice today is to transfer the selected takes right away, leaving the whole of the editing and dubbing processes to be undertaken on photographic tracks.

At the opposite extreme, W. H. Clarke, of RCA, recently made the suggestion that the whole of the editing and dubbing processes should be carried out magnetically, and even the photographic release negative should be eliminated. This was to be effected by means of what he called an "electronic printer," which would produce a positive type sound track on the release print by means of a light modulator, actuated from the magnetic track.

One application of the magnetic track in the kinema has recently been proposed in America. To facilitate the preparation of copies for foreign-language release, it is suggested that two separate half-width photographic tracks should be printed on the copy; one would carry dialogue only and the other music and effects. For foreign language versions the former track would be coated with a magnetic layer (which would make the photographic track opaque) so that a new dialogue track could be recorded magnetically. In the theatre the soundhead must be capable of reproducing both the photographic MFX track and the magnetic dialogue track.

The Leevers-Rich "Lee Raser"



RCA's PM-63 three track magnetic recording equipment, threaded to record or playback, without erasing

If one cannot visualise the early introduction of magnetic sound in the kinema it is sure that the use of magnetic sound should be extended beyond the primary recordings.

The real difficulty is that in editing, the magnetic modulations are invisible, and close sync. is obviously difficult. The use of a track reader has its objections.

A method of overcoming such difficulties would be to print on all magnetic film and tape footage numbers. Actually, in the case of tape, they would have to be printed on the reverse face, and should not be actually footage numbers, but as in the case of the picture film one figure every two-thirds of a second, or, for a tape speed of 15 ins. per second, every 10 ins. Such figures would not, of course, match accurately with those on the picture film, but would be an approximate guide.

Selected takes could be passed through a device which would record on the back of the tape or film an oscillogram trace representing the modulations, and exactly in line with them. Such an oscillogram must be easily visible; yet to avoid abandoning one of the fundamental values of magnetic recording, the non-consumability of the stock, it must be capable of easy and complete removal. It could therefore be printed in soluble ink, which could be removed later.

A piece of equipment which would be of great value in such a process has been introduced by RCA in America, and is expected to be available in this country early next year. It is a triple-track recording and reproducing assembly, rack mounted, which provides recording and play-off heads for 35-mm. film, producing three quite separate tracks across the film. The apparatus can be run in sync. with other equipment, and can therefore be conveniently used for dubbing. Sync. may be adjusted while running.

The apparatus marks a distinct step forward in the adaptation of magnetic sound in the editing room. If, however, it is to become generally used there is still one important matter which must be corrected: the variety of standards at present used. Film width is pernaps unimportant; 35-mm. and 17.5-mm. are mechanically interchangeable, and 16-mm. is not likely to be used professionally.

But the three tape speeds of 15 ins., $7\frac{1}{2}$ ins. and $3\frac{3}{4}$ ins. per second, and the two film speeds of 90 ft. and 45 ft. per minute are likely to cause trouble, as is also the differing number and position of the tracks. For all professional work a film speed of 90 ft. per minute and a tape speed of 15 ins. per second should be forthwith standardised, while the recently proposed American standards for track width and position should be adopted.

R. H. C.

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Wheels That Still Turn Backwards

By R. HOWARD CRICKS, FBKS, FRPS

IN all types of films, from features to newsreels, one still sees the elementary fault of wheels standing still or going backwards. Several particularly flagrant examples occurred in "The Card," where the effect was aggravated by the fact of Alec Guinness's quaint vehicle appearing in full side view. Even "The Greatest Show on Earth," with all its wonderful special effects, was not free from the fault, which in most war films is displayed also on the tracks of tanks.

When an aeroplane propeller is swung it passes through the phases of appearing stationary, and then of going alternately backwards and forwards, until it settles down to a blur.

In actuality films, the fault is generally unavoidable; but in all staged productions its avoidance is merely a matter of a little forethought, plus either some elementary mathematics or a shutter-reflex type of camera.

Fundamental Cause

The fundamental cause of these stroboscopic effects is quite simple. If in the 1/24th second from one exposure to the next a wheel turns the exact distance from one spoke to the next (Fig. 1), then the spokes will appear stationary. If in that time it turns slightly less than the space of one spoke (Fig. 2), the wheel will appear to move backwards, because the eye would sooner believe that one spoke has moved a short distance backwards than that the previous spoke has moved nearly the distance to the next spoke.

If in the 1/24th second the wheel has moved exactly half the distance from one spoke to the next (Fig. 3), the wheel will appear to have double the number of spokes, which will be stationary. At any speed less than this, the illusion will be correct.

Mathematically, these facts can be expressed by simple equations, in which V is the speed of the wheel in revolutions per second, and n is the number of spokes. Spokes will appear stationary when

$$V = \frac{24}{n}$$

At any speed slightly less than this, the spokes will appear to move backwards. The spokes will appear to be double in number when:

$$V = \frac{12}{n}$$

The requirement for a correct illusion is:

$$V < \frac{12}{n}$$

In theory, stroboscopic faults can also occur at higher wheel speeds, but movement blur usually makes such faults unnoticeable.

As an example, if a 12-spoked wheel turns at exactly two rps, the spokes will appear stationary; if it turns at 1½ rps they will appear to move backwards; if it turns at one rps, two sets of spokes will appear. At any lower speed the appearance will be correct.

The Cure

Simpler than mathematics is the use of some device which will enable the cameraman to examine the vehicle in the same way as the film sees it—at the rate of 24 separate glimpses per second. The obvious answer to this demand is the reflex type of shutter such as is a feature of the Vinten Everest, the Debrie Super-Parvo, the Caméflex and the Arriflex cameras. If a moving wheel is viewed through the viewfinder of such a camera, any stroboscopic faults will be immediately apparent.

To provide for other cameras, I have before made the suggestion that the viewfinder should be fitted with a small shutter, synchronised with the camera shutter. In the case of a camera driven by a Selsyn or interlock motor, this would necessitate little additional complication.

If the cameraman, either by mathematics, by a reflex shutter, or by an improved type of viewfinder, discovers during rehearsal that the wheels of his vehicles are behaving in some improper fashion, what can he do about it?

The most obvious thing is to alter the speed of the vehicle. In all probability, if the vehicle is photographed at an angle, the effect, although present, will be unnoticed. But if these remedies should prove impossible—and, after all, the director is entitled to demand that elementary technical matters such as this should be subordinate to his ideas of the action—two remedies are left.

The first—rarely practicable—is to run the camera at a faster or slower rate. The second—which I seem to remember was once adopted by Sir Alexander Korda—is to fit the vehicle with wheels having a different number of spokes; in order to avoid guesswork the mathematics given above can be usefully employed.

The persistence of this elementary fault is due, perhaps, to the fact that we technicians have become so accustomed to it that we do not notice it, or perhaps in some cases think it is unpredictable. But the patron—especially the younger generation—notices the fault, and is curious as to its cause, which I have more than once had to explain to a technically-minded boy. It is high time it was eliminated, along with other faults of the early kinema.

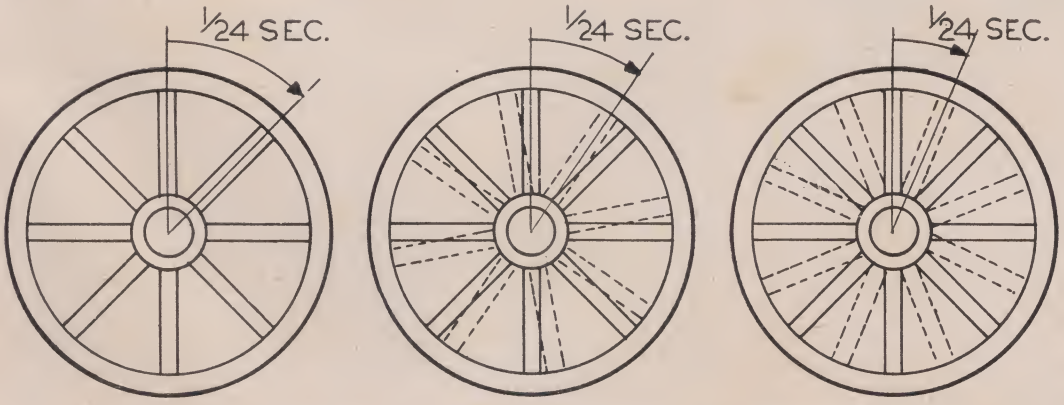

Diagram showing stroboscopic effects :—Fig. 1 Spokes stationary. Fig. 2 Spokes moving backwards. Fig. 3 Spokes doubled in number

CUTTING COLOUR COST?

AN equipment which may make the use of the additive colour processes—with their print cost equal to that of black-and-white—practicable in the kinema is proposed by a French inventor, J. R. Huet, who has demonstrated a process which he is developing. M. Huet will be remembered as having for some years dealt with film matters at the French Embassy.

The system demonstrated is of the classical type, with alternate frames photographed and projected through different filters. In place of a single filter for each colour, however, both taking and projecting filters are built up of a number of narrow strips, those on the blue side ranging from purple, through the blues, to green, and those on the red side from green to red and purple. This principle, M. Huet claims, reduces colour pulsation.

The reel of film projected consisted of Parisian exteriors, and small interiors taken in a private house. The colour range restored one's faith in the ability of the additive processes to produce pleasing colours. Colour fringing was, of course, noticeable, but M. Huet proposed to overcame this by means of a two-film camera. A more difficult problem which still remains is colour pulsation; notwithstanding the filter array, pulsation was noticeable even at the low level of illumination produced by a portable projector, on the primary colours.

Normally the showing of alternate-frame additive films would necessitate an alteration to the projector. M. Huet's idea to overcome this is to mount the filter device separately from the projector, driven by a motor synchronised with the projector. By this means, no alteration to the projector would be needed. However, the loss of light inseparable from additive projection would remain.

As an alternative, he proposes supplying subtractive colour prints, although in this case it is difficult to see what advantage would be gained over a normal bipack process.

Eastman-Kodak Changes

CHANGES in the executive of Eastman-Kodak, of Rochester, New Jersey, are announced following the retirement of Perley S. Wilcox, chairman of the board. He is succeeded by Thomas J. Hargrave, president since 1941. An attorney by profession, his association with Kodak began in 1947. He is a director of Kodak, Ltd., London.

Dr. Albert K. Chapman, general manager and director since 1943, becomes president. He recently paid a visit to Kodak in England.

Best known to British technicians is Donald McMaster, past-president of the Royal Photographic Society, who becomes vice-president and general manager of Eastman-Kodak. He joined the company as a chemist in 1917 and worked at the Harrow factory from 1935 to 1947 as assistant manager and later as manager. He became a director of the British company in 1940 and five years later was appointed assistant deputy chairman of the board and joint general manager of European countries. In 1947, a year after further promotion to deputy chairman of the board, Mr. McMaster returned to Rochester as vice-president and assistant general manager of Eastman-Kodak.

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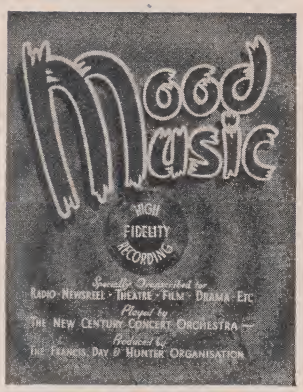

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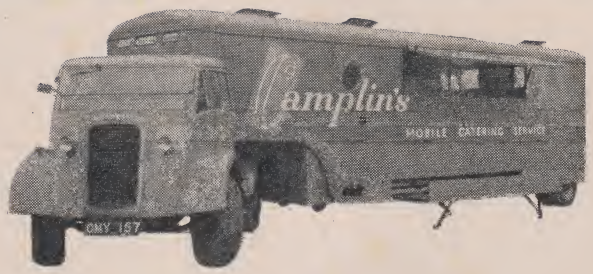

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DUBBING FROM BRONX TO MAYFAIR

DURING the latter part of the "roaring twenties" an agitated New York exhibitor sought the help of an ex-student of the Massachusetts Institute of Technology; sound had arrived and the exhibitor wanted a five-reel silent "Macbeth" turned into a "talkie."

Major W. DeLane Lea, ex-student with five or six years' experience with De Forest Films, lost no time in writing dialogues which were to be run through on a number of creed tape machines synchronised with the projector. A number of artists were engaged for the speaking parts and the owners of the "voice parts" were concealed behind the screen, each reading from the particular machine which contained his or her part. The film went on at the Cameo, in the Bronx, and ran tolerably well for six days before the film, but not the dubbing system, broke down.

Like "talkies," Major DeLane Lea has come a long way since that simple and crude method of supplying screen characters with voices. But the "sound bug" had bitten deep, and today, almost a quarter-century later, the DeLane Lea dubbing process is highly esteemed.

The Foreign Mark

It is in the dubbing of foreign language films that Major DeLane Lea has made his mark. During this time he has brought out over 30 patents and now employs a team of 15 technicians that can handle 25 different languages.

One of the major operations in the business of post-sync. English dialogue dubbing is carried out at the RCA sound recording studios at the Towers, Hammersmith. It was here, during last week's Italian Film Festival in London, that Italian film stars Gino Cervi, Gina Lollobrigida, Lia Amanda, and Dr. Marinucci, the latter representing Unitalia Film Producers, watched part of the post-sync. English dialogue dubbing of the Italian film "Anna."

Gino Cervi, star of "Les Miserables," whose voice for that film was dubbed in English by Howard Marion Crawford, decided to try the system for himself. He said: "It simplifies the work of the artist and it is much easier for them, as they do not have to remember lines." But Howard Marion Crawford had different ideas on the subject. As an old hand at the art of voice dubbing he maintains that it is quite difficult dubbing for an artist using a different language and, particularly, in timing. He said: "The actions and timing on the screen are just not natural in English, so we have to be very careful of our voice rhythm."

Smooth Running

To the dubbing crew, "Anna," a romantic melodrama of two hours' length, presented, at this stage, a fairly smooth-running operation. Howard Marion Crawford and Maxime Audley were up in the viewing panel recording the voices for the parts of Raf Vallone and Silva Mangano while the scenes were being projected on to the screen below them. These scenes, which consisted of loops of film, were being run through in the projection box. The loops eliminate rewinding for any re-takes.

The new sound is recorded on an RCA dual-purpose magnetic and photographic recorder. This recorder has been in use at the Towers for the past 18 months. It uses a 35-mm. perforated magnetic film which is in sync. immediately on playing back.

Molly Stevens, expert in language transcription, who also refuses to work on a film unless she is in sympathy with its subject, had experienced an initial snag during the early part of her work on script editing, which takes anything from three to six weeks to complete. When the first scene between Gaby Morley and Jacques Dumesnil was being played back on the ossiciliogram, the del Synchrola (an analysing machine that breaks down methods of sound in close-ups and long shots, and also indicates the exact relevant symbols of all sounds) indicated that something was not in synchronisation.

A call through to Lux Films, in Rome, confirmed a suspicion that neither star could speak Italian fluently and that their voices had already been dubbed in Italian. This entailed visual lip-reading from the screen. Generally speaking, however, this is an exception, although they can tell you of one famous Italian actress whose voice is dubbed for her by three or four "ghost" voices.

Post-War Increase

As the post-war influx of foreign language films (mostly Italian) has increased, so DeLane Lea has reached the stage where he selects what is considered only the best type of films for dubbing.

In 1947, when the firm first moved into the Towers, only three feature films were handled. Each film entailed something like seven to eight days for recording and the cost was between £4,000 to £5,000.

This year the company will handle 20 films. Recording is completed in four and a half days and the cost has been brought down to an average of £3,500.

Major DeLane Lea also insists on his own conditions of contract, which not every producer appreciates. The terms include 1½ to to 2 per cent. of the gross takings for the film. Fifty per cent. of this amount is divided amongst the technical crew.

Admitting that the Italians would contract for half the present costs, Major DeLane Lea says: "If a dubbed film is to be shown in this country we feel that it should be dubbed over here by our own technicians. We have been trying to get the support of ACT on this point for some time." He also estimates that "Bitter Rice" has so far earned £114,000, of which the Italians have received £36,000.

The next film on the dubbing list after "Anna" is "The Devil is a Woman," the Mexican film that won the Selznick Silver Laurels award. With something like 80 first-class actors and actresses to call upon it is not surprising that Beatrice Lehman has been assigned to "speak" the leading part in "The Devil is a Woman."

Shooting and re-recording anything up to 40 scenes in a day, with the scenes averaging 100 ft. to 140 ft., DeLane Lea faces the foreign film scene with confidence.

W. J. S.

View of the recording theatre at Beaconsfield, where Anvil Films is now reviving some of the activities of the Crown Unit

Anvil Forged from Crown

WHEN the Crown Film Unit was disbanded earlier this year some of the senior members determined that, if at all possible, the work and tradition of the unit must, in some measure, be continued. Anvil Films, Ltd., is the outcome of this decision.

The directors of this new company, which starts operating on July 1, are Ken Cameron, OBE, B.Sc, formerly sound supervisor of Crown; Ralph N. May, B.Sc. formerly general manager of Crown; R. I. C. H. Warren, who was one of the unit's associate producers; and R. K. T. Scrivener, sound engineer.

Anvil has leased the sound department at Beaconsfield, which will be its base of operation for production, and where recording and dubbing will be carried out for other producing companies as in the past.

Crown had a high reputation for the quality of its sound; and Anvil, with the same RCA equipment and the same technical staff, intends to maintain that quality.

The staff is exceptionally skilled and experienced, the four senior technicians having had, between them, more than 50 years' uninterrupted service with the Crown Unit. These include chief projectionist Douglas Smith and operator Douglas Hurring.

The equipment comprises RCA recording apparatus, both studio and mobile channels, 35-mm. and 16-mm., with synchronous disc and magnetic recorders for high quality immediate playback.

Anvil will produce short films of entertainment and interest for theatrical release; and sponsored films for non-theatrical exhibition.

The company also offers what it describes as a unique "completion service" to other producers of short films.

From a rough assembly of material—or, if preferred, a fine cut—Anvil will complete the film to show copy, handling all problems of editing, recording, dubbing, engagement of orchestras, composers, narrators, etc., either to the general direction of the producer or under his supervision.

Whenever Anvil produces its own films the intention is to employ former members of the Crown Unit whenever possible.

The Library Lingers

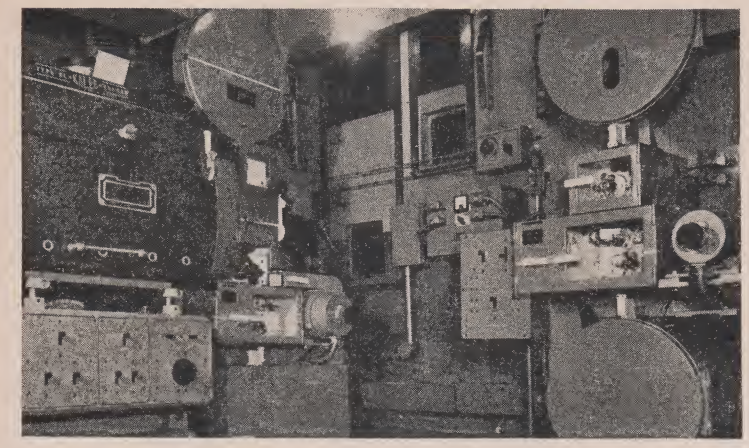
Thousands of feet of film shot by the Crown Film Unit, now of great historic and technical value, are being carefully preserved by the Central Office of Information. Much of the material is available to commercial companies as "stock shots" at reasonable fees.

An official of the COI told Studio Review that the economics of operating this library are being examined, and it is hoped to maintain it on a permanent basis.

If this is not possible the material will be passed on to such places as the Imperial War Museum or the British Film Institute national film library for permanent preservation.

BB

Mixing Facilities at Film House



View of the projection room in the smaller of the two GB theatres at Film House, Wardour Street, now available for mixing

THE smaller of the two G-B theatres in Film House, Wardour Street, W.1, has been converted for use in mixing and running unmarried films; John Abbott reports a brisk demand for it.

One of the two Kalee projectors has been replaced by a GK19, with tandem drive, in which the driving power comes from an induction motor, which is synchronised by means of a Selsyn. The projector has a double-film attachment, and two follower heads are interlocked with it, so permitting three tracks to be run.

A feature of the amplifying gear is that each unit is connected by Cannon plugs, and is immediately removable. The main amplifier, of 30-watt capacity, is situated just outside the projection room.

In the theatre is a compact mixing panel, with provision for three input circuits, each with tone and volume control. A built-in oscillator provides test frequencies of 400, 1,000 and 5,000 c/s. Below the panel are the HT and LT units, again connected by plugs.

The new equipment in no way interferes with the functions of the theatre for normal projection.

Book Review

GAS DISCHARGE FACTS

WHETHER the gas discharge lamp was actually invented in the Philips laboratories is perhaps a moot point; but it is certain that Philips has done at least as much as any other firm to perfect it. A publication by two of the firm's technicians bears, therefore, the stamp of authority.

"Gas Discharge Lamps" deals rather with principles and construction than with the use of discharge lamps. Part I covers the basic principles of gas conduction and the control requirements of lamps. Part II discusses the many types of discharge lamps—sodium, low- and high-pressure mercury, fluorescent lamps, etc., together with specialised applications of such lamps, including projection and television. A chapter is devoted to stroboscopic lamps and flash tubes.

Although the photographic aspects are only briefly discussed, the fact that the sodium lamp has proved very useful in the photographic studio makes one wonder whether it could not be of use also in the film studio, by virtue of its glamorising effect in portraiture. The material on high-pressure mercury lamps should be read by every studio electrician in charge of such equipment.

An appendix gives full data on lamps and control gear. The book is admirably illustrated.

R. H. C.

Gas Discharge Lamps. By J. Funke and P. J. Oranje. 270 pp. Philips Technical Library.

Our Theatre on View

ELEVEN countries, represented by 18 actors and actresses, producers and others engaged in the theatre, will take part in a British Council course on the British theatre which is being held in London and Stratford-on-Avon from June 23 to July 5.

Lectures will be given on recent developments in the British theatre, and members of the course will see a number of productions in London, Stratford-on-Avon and Birmingham. There will also be visits backstage at the Royal Opera House, to the BBC television studios at Shepherd's Bush and to the Royal Academy of Dramatic Art.

Among those who will lecture are Robert Speaight, Roger Manvell, director of the British Film Academy, Sir Kenneth Barnes and Dame Ninette de Valois. The London programme ends on Saturday (June 28), when there will be a Brains Trust, members of which will be Miss Athene Seyler, James Laver and Michael MacOwan, with Lionel Hale as chairman.

During the second week, members of the course will visit the Birmingham Repertory Theatre to meet Sir Barry Jackson, its founder and director. He will speak on the work of the theatre and they will attend an afternoon performance of "South Wind." At Stratford-on-Avon the programme consists of talks and discussions at the Shakespeare Memorial Theatre.

Making a Record

A DEPARTMENT of sound work which has hitherto been reserved from the film world—commercial recording on records—has just been invaded by Telefilms and Recorders, Ltd., whose headquarters are at Nascreno House, Soho Square, W.1.

The firm, which is led by Desmond Kayton (director and secretary) and Charles Green (technical director), has made a series of recordings for Vogue that have proved very successful.

Telefilm's equipment includes film channels recording variable density or area and also a mobile film channel on variable density; and EMI high-speed tape.

Much of the equipment has been designed and built by the firm's own staff, leading members of which are projectionist Curlie Lovell and recordist John Woodiwiss.

Among the firms for which Telefilm has made dubbings or recordings are National Screen Service, Adelphi, New Realm, Big Six, Data, Basic, Halas and Batchelor; and Douglas Fairbanks, jun., television pictures.

Shepperton Casting

Additions to the cast of Frank Launder's production of "Folly to be Wise" at Shepperton are Elizabeth Allan and Edward Chapman.

Alistair Sim is the star of this adaptation of the stage play.

CORONATION IS REEL NEWS—contd.

track as the body of King George VI was brought to Windsor, to the sound only of slowly marching feet and the creak of the wheels of the gun-carriage.

In the Wardour Street area today long hours of screen time are filled with Coronation pictures—of 1937. The films are run again and again for the benefit of officials and organisers and for newsreel staffs themselves so that there can be peering into crystal balls, and imagination can be let loose to evolve new presentations of this oldest of ceremonies.

Timings will be calculated to the second. Distances from camera point to laboratory carefully measured and timed by stop watches. Laboratory workers, who always rise so magnificently to these occasions when they are tied for endless hours to their machines, will be primed with the priority needs so that the developed negative can flow smoothly and in proper order to the screening theatres. Here the editors and their staffs will spend hours looking at negatives, selecting, cutting, juggling, and all the time forming in their own minds the complete picture—the right tone of commentary, the appropriate sound, the precise overall effect.

Cutters will assemble and prune and polish sound track, men will perform their wizardry, commentary writers will search for the simplest words with the most telling effect, commentators will air their voices, recordists will blend a myriad of sounds into a harmonious whole. Then on to the laboratory and the task of printing a quarter-million feet in a few hours, with an ever-patient despatch department snatching off copies to feed the kinemas.

The work does not end there, for to the newsreels falls the great responsibility of picturing Britain's story on the screens of the world. Cars dash to Heath Row and Northolt with duplicates for every country in the world, so that 350 million kinemagoers can share the glory of Britain's greatness and the majesty of her Queen.

Coronation Day will be the fiercest, toughest, maddest day of 1953 in newsreel production offices and laboratories—but not a man or woman in the newsreel game would miss it!

New Zealand Likes These

THE way in which studio equipment from Britain is appreciated in all parts of the world is shown by a letter received by R. R. Beard, Ltd., the mechanical and illuminating engineers, of Old Kent Road, London, from Rudall C. Hayward, British director-cameraman, who is now in Auckland, New Zealand.

Mr. Hayward writes: "You will remember me in London in 1949 The studio lamps I bought from you are still giving excellent service, likewise those purchased by Associated TV Pty., Ltd., in Sydney, on my recommendation. Am now writing to check on the present prices before placing another order for 1 kw and 500 watt studio spotlights.

"For your information, Beard lighting was used almost exclusively on 'Captain Thunderbolt,' a new Australian feature shortly for release. The light weight of your lamps is greatly favoured on out-of-the-way locations."

Printed in Great Britain and Published by ODHAMS PRESS, LTD., Long Acre, London, W.C.2.

FILMS MUST CO-OPERATE OR TV WILL COMPETE

PHILIP DORTÉ, head of B B C Television Films, elaborates the points he made in an exclusive interview with the "Kine." last month. Talking to "Kine." Studio Correspondent Graham Clarke he said:—

BRITISH producers who start now to make films for world television on a long-term basis of cash returns will be "batting on a good wicket"; if the film industry continues to be unco-operative then television has the facilities and ability to set up its own feature production organisation in the same way as it has created its own newsreel.

The tendency in the U.S is for television programmes, other than outside broadcasts, to be almost wholly pre-filmed. The reason for this is largely that, on account of the vast distances there, pre-filming is not necessarily more expensive than hiring thousands of miles of the co-axial cables and radio links which tie the network stations together—and by pre-filming, a given sponsor can have his programme televised at the same time right across the continent and thus overcome the difficulty of the four hours which separate the Atlantic and Pacific coasts.

Philip Dorté with two of his television films staff in the control room during a session at Alexandra Palace

The situation in Great Britain, and indeed in most European countries, is not the same, but we still have to televise a certain amount of film, if for different reasons.

News, as an example, just must be on film; we can televise a certain number of news events "live," but even these broadcasts are often at times in the working week when the majority of viewers are at work, and it is, therefore, desirable to film the event, too, so that it can be re-televised at a peak evening viewing hour; many news events happen anyway, either overseas or beyond outside broadcast's range at home, and so, taken by and large, it is indisputable that a television news programme must be on film, even though it be diluted with "live content."

Use of Sequences

In the BBC Television Service we use a considerable amount of film in the form of what we call "film sequences." One of these may be merely to set the scene for a dramatic production which would otherwise be staged "live" in the studio; another may form an integral part of such a production in that the script calls for a location scene, and this can be achieved more easily by filming the cast on an actual location rather than by providing a not-very-realistic exterior set in the television studio, and so on.

Again, film sequences may be—and invariably are—the very life-blood of such television programmes as "Around Britain," "London Town" and "International Commentary," which call for much local colour.

We must have film, too, to guard against emergencies. If the afternoon programme is billed as a sporting event and rain stops play, we either have to close down the service or televise a film; obviously, we would wish to do the latter. And if an artist is taken ill or meets with an accident just before a studio programme is due to go on the air, one has only the alternatives of a substitute seen unashamedly reading the script—or postponing the production and replacing it with a film. Obviously we would choose the film.

In the past there has been yet another reason for needing film—one which happily does not apply so much today. It is that shortage of studio space for live television has meant that the more that we fill preceding transmissions with film the longer could a production have a studio for rehearsal. With several of the Lime Grove stages now in operation as television studios, this difficulty is, however, now largely overcome.

Of the cases cited for the use of film in the BBC Television Service the film sequence alone must, I personally believe, be made by our own film unit because of the very specialised technique required to ensure that the filming matches as closely as possible the live portions of the programme between which it is sandwiched. News-film we would at one time have been delighted to take from the commercial film world but, as is well known, the Newsreel Association would not supply us again after the war, and so we just had to set up our own newsreel unit.

Now that we have developed our own formula for news-film it is most unlikely that we would disband our newsreel unit if the Newsreel Association now changed its mind.

As to the complete films of all lengths which we require for the purposes which I have outlined, we would much prefer not to have to make them ourselves but, in view of the increasing reluctance on the part of the industry to let us have even films which have had their useful life in the kinema, we are already being driven so to do.

Some of these films—mainly two- and three-reel documentaries—we are already making, albeit on an as yet small scale; and others we are commissioning from some of the smaller independent film producers whose overheads are sufficiently low to make it possible for them to make a very modest profit out of what our budget will allow us to pay them.

This is the important point, however: no one television broadcasting system can, because it can only televise a film twice at the most, pay sufficient money to justify a major outside producer making films for that system alone. The independent producer who seeks to make films for television (and many of them come to my office and seek my advice about this) must, therefore, be prepared to tie up for some time the capital which he invests in the production of films for television because, although he may get a small return from the U.S and from us now, and, say, from Canada in the autumn, it will be some time before television broadcasting is functioning in other countries where English dialogue is acceptable and thus some time before he gets enough "renters" to pay back his negative costs and show him a profit.

Why There Were Failures

For an independent producer in England to break successfully into the American market he must have studied that market very carefully indeed and make films of exactly the right lengths and to precisely the right prescription. Failure to do this has resulted, of course, in the demise of some firms and has caused other producers to burn their fingers.

Personally, I look forward to the time when there will be a flourishing industry in England making films for the American and world television markets as, if the films are designed for television and are thus not acceptable as second features in the kinema here at home, they will presumably be available to us for British television.

If this does not come about, however, or if the films made for world television are not suitable in content for our service can we, although reluctantly, go into larger scale production ourselves? It's not impossible for, if,

Continued on page 10

Bringing Cartoons Out of the Picture

JOE NOBLE is one of the few remaining enthusiasts of a small band of cartoonists who over 25 years ago tried vainly to establish a cartoon production in this country; his patent of 1928, he claims, anticipated Disney in the talking cartoon film.

Now he has demonstrated, in a stereoscopic viewer, a filmstrip containing stereoscopic drawings which, he claims, had been made by a new process.

His system has now been patented, and is in use by the Vandyke Picture Corporation.

Briefly, the invention is a system for drawing stereoscopic pairs of images with true stereoscopic displacement. How these pairs are to be viewed or projected forms no part of the invention, but obviously they would lend themselves admirably to any of the present stereoscopic projection systems.

If one were to superimpose a stereoscopic pair, it would be seen that, while the backgrounds coincided, the forward planes would be progressively displaced; the extent of the displacement is a measure of the apparent height of the object from the background. By means of this principle the height of mountains or buildings may be measured from pairs of aerial photographs taken from different viewpoints.

Mechanics for Maths.

For this purpose an instrument known as a stereocomparator is used. Briefly, this is a gadget placed between the binocular viewing eyepieces and the pair of photographs, which enables the relative displacement of foreground objects to be measured. By mathematics the height of the object can be computed.

What Joe Noble sought was just the converse of a stereocomparator —a device on which he could mark the height required for any part of the drawing, when the displacement would be effected automatically. The displacement could, of course, be worked out by mathematics—but imagine the tediousness of making a number of trigonometrical calculations for each of the many key drawings in a cartoon film! So he set to work to produce some mechanical means

Linking Drawings

First of all he had to devise a method for making a pair of identical drawings. The solution was found in the telautograph linkage system—more popularly known as the "magic pen"—used by the Post Office. Two pens—or actually pencils—are linked together, either mechanically or electrically, and the slave pen follows precisely the movements of the master pen. The principle is shown in the sketch (the drawing is actually a cartoon by Joe Noble of himself).

In the sketch, P^1 is the master pen and P^2 the slave pen. X^1 is a fixed point on which the arm pivots; the arm is linked, either by means of sprockets and chains or electrically, to X^2; similarly, the opposite arm is pivoted at Y^1 and is linked with Y^2.

It can be seen that any movement of P^1 will be transformed in definite angular movements of the two arms at the pivots X^1 and Y^1, and these angular movements, conveyed to X^2 and Y^2, will cause the slave Pen^2 to follow exactly the movements of P^1.

Having devised a method of making two similar drawings, Noble's next problem was to impart the necessary degree of dissimilarity.

His first experiments made use of a gyroscope to control the movements of the slave pen, movement of the gyroscope being controlled by means of a knob as the artist worked. But the reaction of a gyroscope is slow, and this idea was dropped in favour of the idea shown in the sketch.

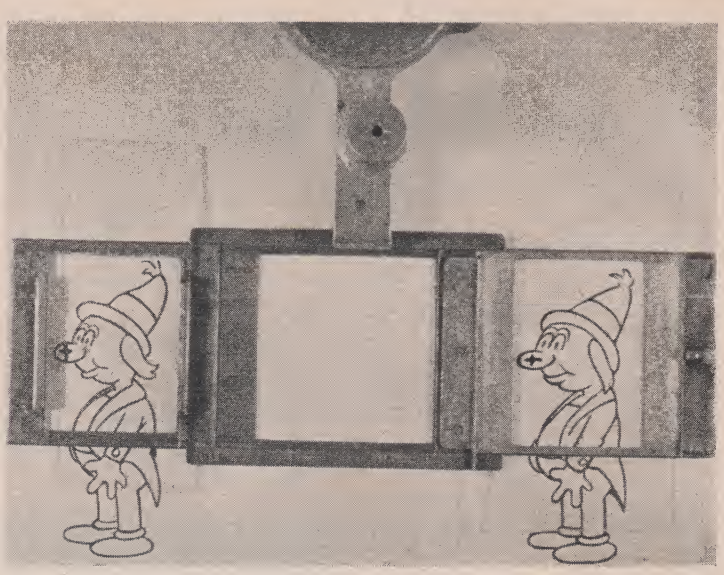
In the new system the linkage of the pens is unaltered. The compensation for image displacement is effected by moving the right-hand paper. The "joy-stick," operated by the artist's left hand, moves the drawing to the right to secure displacement to the left, and *vice versa*. The joy-stick moves over a graduated scale, working from infinity (no displacement) to foreground (maximum displacement).

If the artist is drawing a face he will displace the nose, in relation to the face, in the second of "slave-pen" drawing, and again the tip of the nose—identified, perhaps, by a pimple—in relation to the nose as a whole. Actually, the artist acquires the art of moving the joy-stick automatically and continuously as he draws; if it were moved in a series of steps the resultant images would show depth in a series of planes—possibly a desirable feature for, say, titles or publicity material.

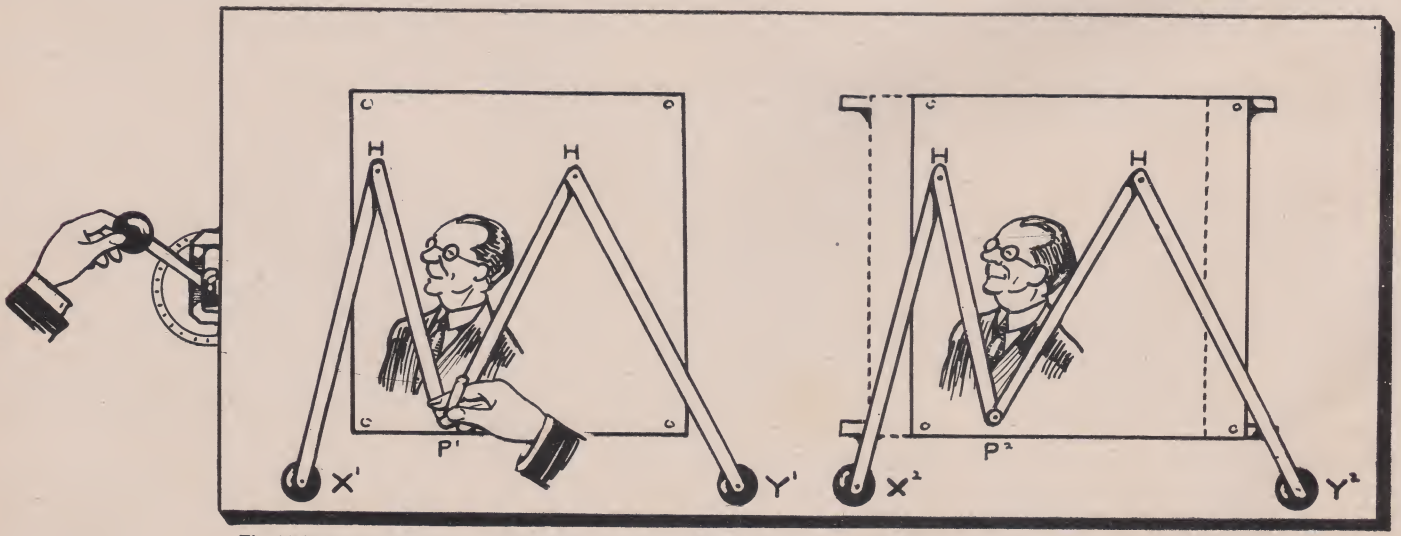
Actually, the linkage—which is placed underneath the drawing board, and not as shown in the sketch, above it—is a matter of some complication. Provision had to be made to accommodate the differing parallax of various viewpoints, and also to allow for modification of shape; for instance, a ball seen from any viewpoint is round, but an egg may be round in the left stereogram but oval in the right.

The Noble Automatic Stereograph Plotter, in spite of its ingenuity, remains only a machine, and has its limitations. For instance, in the drawing of a face the ear may be seen in one stereogram and should be hidden in the corresponding one; the machine will not hide it, but it will indicate

Continued on page 10



A new type of parallax bar, designed specially for stereoscopic cartoon making. The heighting mark (in this case the X on the gnome's nose) can be moved up or down as well as sideways



The Noble automatic stereograph plotter, showing drawing board and pantograph, with joystick control of lateral displacement. P^1 = master pen—X^1 is pivoted and connected to X^2 P^2 = slave pen—Y^1 is pivoted and connected to Y^2 H = hinges

LINING UP COLOUR FOR THE CORONATION

By R. HOWARD CRICKS, FBKS, FRPS

HISTORY will repeat itself next year, when, just as on the occasion of the crowning of King George VI, the Coronation ceremonies will provide a spur to the development of colour.

It may be assumed that all the newsreels will issue colour reels. The only definite announcement so far made is that by Jack Warner and Sir Philip Warter, that Pathé will be putting out the Coronation film in Warnercolor, with the help of Warner technicians. C. J. Phillips, laboratory manager of Associated British-Pathé, when I recently saw him, was reticent as to details. Nevertheless, he has visited the Warner laboratories at Burbank, California, with the object of obtaining first-hand knowledge of the process. It may be inferred from this that his company is considering plans for the processing of the system at one or other of their existing laboratories.

First Example

The first film we have seen to have been shot in WarnerColor was recently trade shown: a western, "Carson City." Inquiries suggest, however, that the print shown had actually been made, not by Warner's, but by another system; the combination of the two processes did not give the happiest results, and the colour was, in my view, little better than that obtainable by a two-colour process.

Gaumont-British has already taken experimental shots in Westminster Abbey.

The main difficulty arises from the fact that at the present moment Eastman Color material, which WarnerColor employs, is not manufactured in this country, and imports in large quantities from America would necessarily involve dollar expenditure. Nevertheless, from B. J. Davies, of Kodak, I learn that the Wessex Films feature on the Coronation is using Eastman Color negative, which will be sent back to the States for processing.

Experience Will Tell

This statement suggests that it is not expected that Eastman materials will be processed in this country in the near future, and confirms the view expressed by Mr. Phillips, that while the results he had seen at Warner's were extremely impressive, any colour system based on these materials must necessarily depend a great deal on experience in handling, especially as regards colour grading—experience which cannot be gained until a reasonable footage of stock is available.

On the assumption that Eastman Color negative will be obtainable in this country for the Coronation—if not for normal production—I predict that one important advance will be made by Technicolor: the replacement of the three-strip negative, which is usable in any black-and-white camera. Let me emphasise, nevertheless, that whatever may be the advantages of the tripack process, there is absolutely no suggestion that the Technicolor printing process will become obsolete in the foreseeable future.

Processing of the very considerable footage of colour negative that will be shot on the Coronation will in any case present serious problems. During my visit to Belgium a short while back I had a long discussion with L. Meeussen, of Gevaert, who emphasised one point: that eventually colour must become just as simple to handle as black-and-white.

We are as yet far from this stage. The chief points emphasised by Mr. Meeussen were that processing must be simplified, and, even more important, that duping must become possible without loss of colour quality, and without the use of the separation process.

World Service

Within the past few months one important advance may be recorded in regard to the tripack processes; to quote Bill Harcourt, of Denham Labs.: "If a film is shot in Eastman, Gevaert, Ferrania, Ansco, or Agfa, it can be printed in any part of the world where colour processing is available."

In other words, it is today practicable to make prints from any of these tripack negatives upon any tripack positive stock (this does not, of course, mean that sections of different negative can be intercut, due to differences in printing requirements).

Denham has actually printed every possible combination of these systems—a striking example was, of course, "Royal Journey," which, shot on Eastman negative, was printed on both Gevacolor and Ferraniacolor.

In actual fact, things are not quite so simple as this, for Denham is so far the only lab. in this country capable of handling the tripack processes. Nevertheless, the other laboratories realise that they must go into colour. Pathé, as above reported, undoubtedly has plans, but is not at the moment disclosing them (the experience with Pakolor should prove of value). Kay's has the matter under consideration.

Development

George Humphries has recently announced that new equipment is being installed to handle colour, but again is divulging no details; I gather, however, that the chief object of the equipment will be the handling of Eastman Color stocks.

Development on these lines is a special problem, for colour is an advance that costs a lot of money, both in equipment and in running costs.

An important point which I discussed with Mr. Meeussen was the possibility of the processing of the various tripack stocks being standardised, at any rate to the extent that they can be handled on the same machines. At his request I asked the Film Laboratory Association to consider the problem, but its view is that it is up to the stock makers first to standardise their requirements.

Actually, a lab. such as Denham, handling the various stocks on a commercial scale, on large up-to-date equipment, is better placed than the makers to work towards interchangeability in processing. For instance, as a result of the work of their chemist, Dr. Gloyns, it has been possible to shorten the development time of Gevacolor to five minutes, and of Ferrania to four and a half, and to handle the two stocks on the same machines and in the same solutions.

A machine at Denham is now being equipped with no fewer than 16 extra tanks to handle Eastman Color negative.

An important factor is agitation. While in a machine with slow circulation the development of the undermost layer of a tripack stock may continue even into the washing; in a modern machine with high agitation, the developer is almost immediately washed out. This factor affects the colour balance of the stock and reduces the difference between stocks.

Turning to the problems of duping, the introduction of a duping operation without loss of colour is dependent at the moment upon the use of a masking process, to compensate for the shortcomings in known dyestuffs. Ferrania fully realised the need for a duping process, and when the stock was introduced to this country its technicians showed two reels of film, one a direct print, and the other a dupe—it was, I am assured, impossible to distinguish between them except for a slight loss in the yellows.

Future Hopes

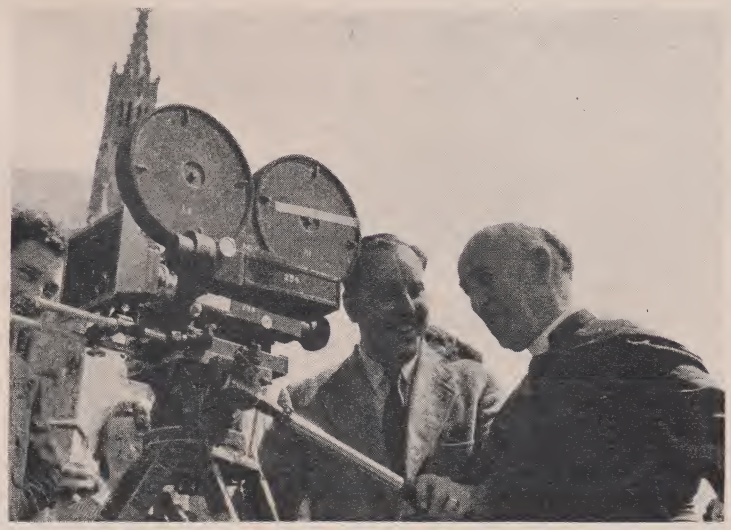
Ferrania stock makes use of a silver mask, which controls the second exposure in a reversal process. The Eastman stock employs the coloured coupler principle, producing a queer pinkish image; test strips I have seen showed an excellent maintenance of colour.

However, dye research does not stand still, and it may be that in time dye characteristics will improve to the extent that masking may become superfluous. It may even be possible to introduce all density and colour corrections into the dupe negative, so that the release prints can be made without grading.

I have, incidentally, been asked what has happened to Gasparcolor, which before the war produced quite pleasing results. A search at the Patents Office reveals that Belà Gaspar has filed a large number of patents—chiefly American—during the past 12 years, most of them on the subject of colour, and some on colour masking, by various methods.

Final Consideration

There is a final consideration that should not be overlooked by producers. The rushes from colour negatives are, of course, supplied in black-and-white, and often these prints are of outstanding quality—16-mm. workers have known for a long time that excellent black-and-white prints can be obtained from Kodachrome originals. Even though colour prints may at the moment be unobtainable, it may still pay to shoot in tripak, in the hope that by the time the film is released, colour positive stocks may be available. Black-and-white prints can still be obtained and may indeed be preferred for television and for 16-mm. release.



The Archbishop of Canterbury, Dr. Fisher, was an interested spectator when Wessex was making ROYAL HERITAGE in Eastman Color at Canterbury. Here he is with assistant director Bernard Hanson and lighting cameraman, Fred Gamage, during location shooting

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WHERE GEVACOLOR IS MADE

THAT the production of black-and-white colour-separation master positives will for a long time to come be a desirable feature of production in any tripack process, was the view expressed to me by L. Meeussen, of Gevaert. His reason for saying this was the lack of experience concerning the stability of existing dyes; a producer who, after release, stores his colour negatives will find if he wishes to reissue, that the colours have faded.

For this reason, Mr. Meeussen thinks the present difficulties of making direct dupes in colour are not insurmountable, since all laboratory processes can be carried out, with little loss of quality, on black-and-white films.

I renewed my acquaintance with H. Verkinderen, deputy general manager, and also with Mr. Meeussen, on the occasion of a recent visit to the factory in Antwerp. Among other matters, Mr. Meeussen mentioned that a film of outstanding quality, "Fire Bird," had just been shot in Sweden and processed at Denham; so accurate had been the exposure and colour balance that practically no grading of the negative, in density or colour, had been necessary.

Mr. Meeussen is confident that, while at present there are the two methods of duping, the reversal dupe and black-and-white separation, eventually the process will become as standardised as that of normal black-and-white. The day will come when processing, duping and printing will probably become as simple and free from complication. He urged, however, that the laboratories and the makers of colour stocks should co-operate in standardising processing of the various stocks, so that they may become interchangeable, at least as regards the actual laboratory work.

I was conducted round the factory by P. A. Hoelen. Because the departments producing motion picture film operate in complete darkness, he took me round the department turning out bromide paper, where the red lighting enabled things to be clearly seen. However, the preparation of high-speed emulsions is very similar, but longer.

The suspension of silver bromide, silver chloride and potassium bromide in gelatine is thoroughly stirred in stainless steel containers, is allowed to set, and is then shredded. The material, not yet light-sensitive, is tipped into a huge vat, with heating and cooling jackets and an agitator. In due course the emulsion becomes light-sensitive, and is then drawn off into other stainless steel containers for ripening. (The washing of these containers is an essential job.) The total process of manufacture of the emulsion takes three days.

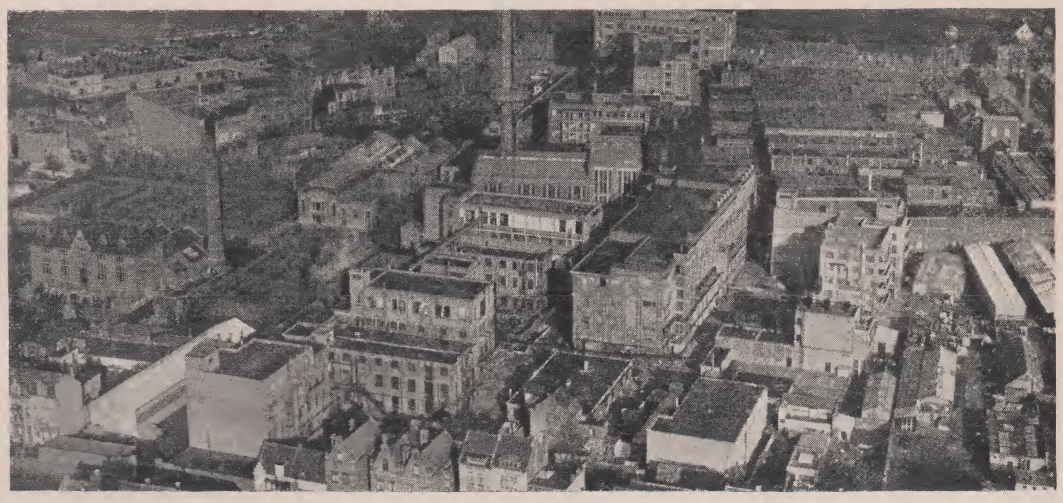
The coating machines, whether for film or paper, are of similar design—based upon the design originated by Liévin Gevaert nearly 50 years ago, when the present factory was started. The emulsion is applied to the paper or film by means of rollers; in festoons the material passes through the setting and drying chambers, and returns to the beginning of the machine, where it is wound, ready for slitting.

Gevaert's are one of only three actual makers of film base in Europe. For reasons of safety in the case of nitrate the nitration of the cotton linters was done at another factory at Heultje. The chief constituent of film base is cotton linters, which were nitrated formerly, and are now acetated.

The triacetate cellulose arrives at the Antwerp factory in sealed cans. It is mixed with solvents and is cast into a film upon a highly polished endless band 45 in. wide, which carries it through the setting and drying cabinets, until it is wound up in 2,000-ft. rolls. The coating is similar to that of paper.

Everywhere about the factory there seem to be laboratories. These serve three main purposes: for the testing of incoming materials, the testing of finished product (this operation being carried out in laboratories responsible directly to the management, and not to the factory); and, finally, for original research, where everything from basis photographic processes to colour and magnetic recording is studied.

R. H. C.



Aerial view of the extensive Gevaert factory and laboratories in Antwerp

Water Rushed Ealing Rushes

ONE of the main, and most depressing, discomforts facing a long-location film unit is the viewing of rushes. Usually this involves a journey into the nearest town at about 10.30 when arrangements have been made with a local kinema manager to have the use of his screen and projectionist after the last evening programme.

By this time, the most up-to-date theatre reeks of smoke, people and fruit in season—in addition to having the morgue-like quality common to all places of entertainment when they are empty. In these circumstances the best work may look mediocre and an unfortunate day's toil points to suicide.

When Ealing Studio's Baynham Honri visited Limpley Stoke, hub of an eight-week location for "The Titfield Thunderbolt," he discovered the answer to the rushes problem, namely Avon Mill, which was converted into what the unit aptly named their "Hydrodeon."

This is a fine stone building, some 100 years old, which has been in the past a cloth mill, flour mill, rubber mill and saw mill. Two and a half years ago it was purchased for use as a tannery, but is now for sale.

Idleness has left this picturesque rural factory with a deceiving air of freshness and cleanliness. The turbine room, containing three 60-year-old turbines capable of 120 hp, is a model of mechanical simplicity. It looks out on Avon Weir, the power behind the wheels, through open window spaces framed with green creepers.

On the floor above the turbine room is the 30 kw generator, and above that again the machine loft which became a private theatre whilst the unit was in residence. The screen and projector were imported from Ealing studios, as was the projectionist, Peter Lacey, who operated the entire complicated business of running films on water power.

The grid through which the weir poured had to be kept free from weeds, the turbines had to be fed with oil, the generator had to generate and finally the power required for the 25 amp arc's 200 volts had to be balanced; this, Peter discovered, took five domestic electric fires and one greenhouse heater!

Although the Hydrodeon was equipped for sound—and had primitive emergency exit—the best noises off were supplied by British Railways.

Balancing the power in the "Hydrogeon" projection room; the various electric fires and the greenhouse heater equal one arc lamp

WHAT'S NEW . . .

On this and the following page are details of some of the facilities recently developed for studio and location work

SINCE Ealing Studios first adopted VHF radio for communication between the studio and location units, or between one unit and another, progress in design has enabled more compact equipment to be produced, and Alfred Imhof now offers a compact transportable equipment suitable for use as a main station, and the "Walkie-phone" for out-stations; both are made by Pye Telecommunications, of Cambridge.

The "Reporter" mobile radiophone is primarily intended for installation in a car, but can also be supplied self-contained in a metal case for independent operation, with the necessary batteries. The weight without batteries is 17 lbs.; either 6-volt or 12-volt batteries may be used.

Two models are made, covering two wave-bands, the first from 60 to 100 Mc/s, and the second from 100 to 184 Mc/s, the latter including an additional multiplier valve. The transmitter thus incorporates either four or five valves, the RF output ranging from 2½ watts at 60 Mc/s to 1 watt at 184 Mc/s. The set can be used for either single or double frequency working, and is intended for simplex operation, a pressed switch serving to energise the transmitter. The receiver incorporates a double super-het. circuit, with nine valves.

Control is of the easiest, there being only two switches, apart from the pressel switch—an on-off switch and AF volume control. Both receiver and transmitter are crystal controlled. The "Reporter" is suitable for use in tropical climates.

The "Walkie-phone" being used on constructional work, showing its extreme handiness

The Pye "Walkie-phone" is fitted with harness for wearing on the chest, with built-in microphone. Its size is only 3½ in. by 6⅞ in. by 8 in., and the weight 8 lbs., complete with batteries; the LT battery gives 15 hours' running, and the HT 70 hours. The output of the transmitter is 0.1 watt. Transmitter and receiver employ a total of only six valves.

As in the "Reporter," both transmitter and receiver are crystal controlled. An AVC circuit gives a very level response over a wide range of signal strengths, and reception is particularly free from spurious noise.

The "Walkie-phone" is intended to operate in conjunction with a main transmitter such as the "Reporter." The working range depends, of course, upon the siting and height of the aerial. From an aerial 50 ft. high, a radius of 25 miles can be covered over flat country, or possibly 15 miles in towns. Where a transmitter has to be operated from low-lying premises, remote control can be provided to an aerial situated at some distance, where its elevation will provide adequate coverage.

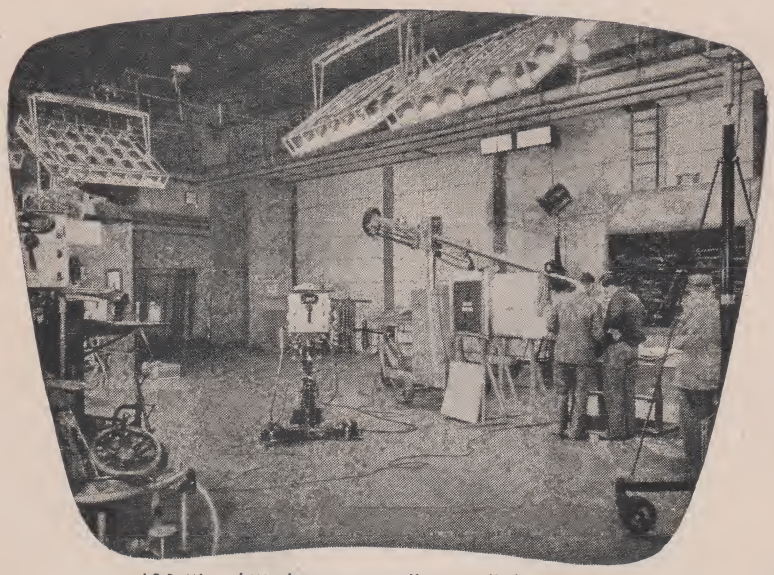
Portable "Ferrosonic" Recorder

A PORTABLE magnetic film recording channel, sufficiently flexible to cater equally well for studio or location work, has been developed by British Acoustic for GB-Kalee. Previous "Ferrosonic" equipment has been modified from photographic recording gear, but the new equipment represents a completely new design.

The essential equipment consists of four units: mixer, amplifier, recorder and power supply unit (the last can, if preferred, be replaced by batteries and a vibrator). It is envisaged that film will normally be erased in bulk, but if it is preferred to erase in the recorder, a separate erase unit is provided. Compression is normally unnecessary in magnetic recording, being better introduced in the transfer stage, but in case the mixer prefers to record a compressed signal, a compressor unit is available.

Yet another optional unit is an LT supply unit for the mixer, which in static installations can take the place of batteries.

The recorder itself is designed to handle either 35-mm. or 17.5-mm. perforated film, the film rollers being so formed that no adjustment whatsoever is needed to adapt it for either size of film. The motor normally fitted is of the three-phase synchronous type, but other types, such as interlock, can



J & B Mineral Wool Acoustic panelling installed at Lime Grove Television Studios. (Photo by kind permission of B.B.C.)

O.K for SOUND

A.1 FOR COMFORT

ACOUSTIC APPLICATION The Acoustic problems of sound recording and television studios have been solved by the highly versatile and efficient J & B Acoustic Panels illustrated in the photograph of Lime Grove television studios.

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be fitted if desired. The drive is taken through a gearbox which permits different film speeds to be provided; the normal speed is, of course, 90 ft. per minute, but, for example, a channel supplied to the BBC was required to run at 93¾ ft. per minute (25 frames per second).

Apart from the positive synchronism afforded by perforated film, the more generous proportions of the equipment, as compared with those of a tape recorder, make a strong appeal. Film speed is stabilised by a massive flywheel, and there is a considerable length of film between the flywheel drum and the feed sprocket, ensuring complete suppression of perforation flutter. Loops held taut by sprung rollers keep the film in contact with the recording and play-back heads, and with the erase head when fitted. When erasing is provided, interlocks prevent any risk of erasing a newly recorded signal.

Press-Button Control

The recorder is controlled by press-buttons, for forward, stop, and reverse. Other press-buttons permit the film to be run in either direction without erasing or recording. The whole of the recorder is covered by a hinged lid with a glazed window, and the gear can be operated with this lid open or closed.

The mixer has provision for two input circuits, and control is provided for ribbon, moving-coil or cardioid microphones; in the last case, the same knob also controlling the different microphone characteristics. Each channel has a tone control which provides LF attenuation with or without HF attenuation. A built-in oscillator gives three test frequencies of 120, 1,000 and 5,000 c/s.

For monitoring—on moving coil headphones—either the input signal or the recorded signal can be switched in. For volume indication a peak-reading meter is fitted, which also serves to check the various circuits. Intercommunication between mixer and recordist is effected by small speakers built into each unit, with a switch for "call" or "speak."

Two Amplifiers

In the amplifier unit are contained two separate amplifiers, one for recording and the other for playback, together with a supersonic oscillator for the bias current. The playback amplifier includes, of course, correcting circuits giving a flat overall reponse, but to facilitate mixing a special equaliser circuit is provided which gives the standard theatre response curve. The later stages of the playback amplifier are also used for direct monitoring. A meter enables every circuit, as well as bias current and oscillator current, to be checked.

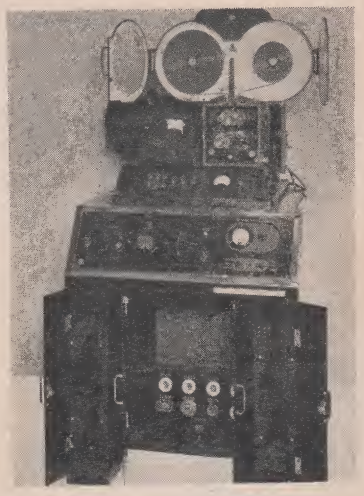
The power supply unit provides HT for the amplifier and mixer, and LT for the former only. As previously mentioned, the mixer LT is provided either by batteries or by a separate mains unit.

The two optional units are the compressor and the eraser. The former is connected between amplifier and recorder, and provides three compression ratios, as well as a variety of speech and music characteristics. The erase unit, with self-contained power supply, is simply plugged in to the recorder, and provides supersonic current sufficient for complete erasure.

A feature of all the amplifier circuits is their complete accessibility for servicing. For servicing the recorder unit, three legs are extended on which the unit is rested upside down, when the case can be completely removed.

Notwithstanding the robust design, all the units, with the exception of the recorder, can easily be transported single-handed, each unit weighing round about 30 lb. The recorder weighs 86 lb., and is provided with handles for carying by two men.

The new "Ferrosonic" channel represents a distinct advance in magnetic recording gear. In addition to installations at Pinewood, GB News and Alexandra Palace, several channels have been, or are being, shipped abroad.



The RCA type PR-23 photo-magnetic recorder fitted with LMI-68 magazine, Custom-built desk mounted

Sound Progress at the Tower

PROGRESS in sound recording is today largely tied up with magnetic recording. At the invitation of Harold Hoar, AMIEE, manager of the RCA commercial division, STUDIO REVIEW visited the Tower, Hammersmith, recently, and found, as on past visits, that developments were still in hand with a view to yet further improving the services offered by this useful little studio-cum-research centre

The Tower has so far been without a supply of 3-phase current from the mains, a generator truck, of course, with stabilised output, being housed in the garage. At last it has been possible to obtain a mains supply, and electricians were at work in various parts of the building running three-phase cables.

Dubbing Session

A dubbing session was in progress for a Raymond Stross film. Up in the projection room of the dubbing theatre the Ross projectors and all six follower heads were threaded, ready for the start signal.

In the recording room the magnetic recorder was loaded with Pyral film; the simple rewind system provided by the new magazine, with its Perspex windows, is an obvious advantage. In an adjoining room are 35-mm. and 16-mm. photographic recorders.

The PR-23 photo-magnetic recorder, previously seen at the Oxford Street studio of Associated British-Pathé, was here the subject of conversion, a feature of which was a newly designed motor combining three-phase and Selsyn in the one carcase, and considerably smaller than previous motors of this type.

In the test laboratory, C. C. Buckle, chief test engineer, displayed the new magnetic head, which has an almost invisible slit only one-fifth of a mil. in width. The advantage of this narrow slit is not any possible gain in HF recording, but the fact that discrepancies in the width of the slit have a negligible effect upon the characteristics of the head, and it is claimed that there was never more than 1 db. difference between individual heads.

It is an accepted fact that the erase head on a recorder is not capable of wiping completely the heavier modulations of past recordings. The "Noiseraser" is a flat table, with magnet windings consuming 10 amps., and producing a powerful alternating field. The device is switched on, a roll of magnetic film is placed on the spindle and given 1½ turns, when any previous signals are erased to the extent of 70 db.—20 db. better than the average eraser head.

Mr. Hoar agreed that considerable interest had been aroused by the announcement of the RCA three-track magnetic re-recorder. Unfortunately, there seems little prospect as yet of this piece of equipment becoming available in this country.

But the ever-growing popularity of magnetic sound does not mean that photographic recording is a thing of the past. Every studio retains its photographic channel, and every magnetic recording has to be transferred to a photographic track, generally for editing, and always for release. A service available to RCA licensees is the galvanometer tester, which enables a recording galvo to be tested under the actual conditions of recording.

The galvo is inserted in a mounting identical with that of the recording camera. It can be fed with any desired type of signal—frequency tone, speech, bias—and the vibrations of the mirror can be watched on a screen, and are also picked up by a photo-cell, enabling them to be analysed and any distortion detected. The value of this device is that it enables the galvo to be tested and adjusted actually under practical conditions of use.

Also demonstrated was the new RCA 400 photo-magnetic 16-mm. projector—a fine piece of equipment.

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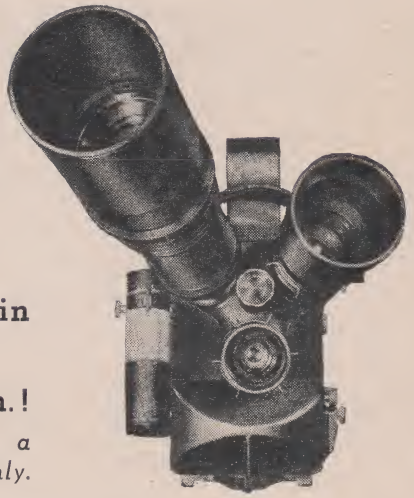

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WOMEN AT WORK • Men Across the Wor

Women directors are not many: Studio Review puts the focus on two who have made films this summer—Margaret Thomson who directed "Child's Play" for Group 3; and Di Pine, who made "Royal Heritage" for Wessex

THE fact that Margaret Thomson was chosen by Group 3 to direct "Child's Play," is hardly surprising, for Margaret has had as much experience of filming children as anyone in the trade—and she still likes doing it.

A New Zealander, Master of Science, with, also, a degree in Zoology, she is, however, the antithesis of a blue stocking. Perhaps it is the background of learning that helps her to be friendly with children. At all events it is never long before her young actors and actresses are calling her "Margaret," and enduring, fairly happily, a fair approach to the strict discipline of shooting.

Like most of our competent technicians, Margaret came up the hard way. When she first came to this country in 1935, she joined FBI Films. There followed experience in cutting, scripting, research and other production jobs.

Seven years with Realist showed her flair for getting behind the feckless façade of childhood. She made "Children Growing Up Among Other People," and "Children Learning By Experience."

Also, like many of our competent technicians, Margaret owes something to the late-lamented Crown Film Unit, and to the British Council Among her films in that period of her career were "A Family Affair," which had the aim of persuading foster parents to adopt children; and "Jack of What Trade." which tried to help teenagers to decide on a career after leaving school.

It is no coincidence that every film so far mentioned has been associated with children (though she has also made one on nursing technique).

When she finished "Child's Play," the stars of which are four boys and three girls, a little while ago, her first comment was one of humorous relief and her second, "I enjoyed it. Children are not used nearly enough in films."

ART training at the Regent Street and Chelsea Schools led Di Pine into the film world. She concentrated on designing for films and entered an apprenticeship with Edward Carrick at his film school. That led to studio experience with Carrick, when Criterion made "Jump for Glory" and "Jericho."

Then, as now, Di had a passionate desire to work in what, for want of a better name, are called documentary films, but found that documentary producers did not think in terms of employing art directors.

Once again the Crown unit comes into a personal history: Carrick became an art director and studio manager of Crown, and Di eventually got in there as assistant studio manager when Harry Watt was making "Target For Tonight" and the late Humphrey Jennings, "Listen to Britain," with Ian Dalrymple producing.

Now Di has recently finished shooting "Royal Heritage" in Eastman Color—for Ian Dalrymple.

In between she had what she describes as "one of those rare experiences that the theoretical filmmaker dreams of and that so seldom come true—acting as unit manager to Humphrey Jennings when he made "The Silent Village." She believes that a woman director usually sees the importance of detail more urgently than does a man, but the influence of Jennings remains in her policy, as a fully-fledged director now, of allowing the continuity of events to develop their own dramatic impact within the limit of the usual documentary confine of footage and cost.

Di is probably one of the most versatile directors in the game. She has switched easily from such subjects as "Faster Than Sound," the Wessex series on "The Changing Face of Europe," and "Atoms at Work" (the culmination of five years' security coverage of atomic energy, not yet released) to the present deep sentiment of "Royal Heritage," which she has found just as exciting.

ATMOSPHERE ON RECORDS

IN the latest catalogue of recorded music just issued by Boosey and Hawkes, of Regent Street, W.1, is a new section classified under atmosphere which is likely to be of especial interest to film producers as well as to all who have to build record programmes.

"Atmosphere" is divided into 13 headings: Action (gay), animals, burlesque, children's music, drama, glamour, marches, national character, pastoral, quiet-serious, realistic, sea music, and title music and fanfares, etc.

The catalogue has been brought completely up to date and includes records made within the last few weeks.

THE growing tendency among feature film makers to quarter the globe on location is old stuff to the producers of sponsored shorts.

Jimmy Carr, managing director of World Wide Pictures, for instance, has just returned from a little tour that took in Nigeria and the Gold Coast and back in a matter of 14 days, and his company is simultaneously working in Italy, France, Holland and the Sudan.

Besides being managing director of World Wide, Jimmy shares the duty of producer with his fellow director, Hindle Edgar, for obviously it is impossible for one man alone to be responsible for projects as far apart as North Europe and West Africa, while at the same time keeping a proper eye upon possibly as many as five other units at work in different parts of England.

Jimmy's trip to the Gold Coast was to consult there with Colin Wills, writer and research expert, upon a film about the timber industry of West Africa. It is a follow-up to "A Story of Achievement," which World Wide made for Unilever on what at first sight appeared to be the most unpromising subject of margarine, but turned out to be a fascinating human story. The new project promises even better, for is about an entirely fresh industry that has literally been hewn Unilever staff out of the African jungle. While in Accra Jimmy met old friends in Sean Graham and George Noble, of the Gold Coast unit, and at Lagos Lionel Snazelle of the Nigerian unit, helped him with equipment.

With Jimmy back in London, Hindle Edgar set off last week on a trip, with a unit led by director John Rowden and cameraman Geoff Williams, that will take them through Italy, France and Holland in seven weeks, putting on film for the Mutual Security Agency methods of growing and harvesting maize; and, within a week or so, Robin Carruthers and George Shears go to the Sudan to picture the Gezira cotton scheme for the C. of I.

In the midst of this widespread activity Jimmy has one very strict rule—quality must be high: remembering "The Undefeated" and "David," the rule seems to have been kept, and, reviewing the company's present activities, it seems that it is fully justifying its title—World Wide.

FILMS MUST CO-OPERATE—Continued

say, 19 other television broadcasting organisations did the same, each making a full-length picture costing some £20,000, and interchanging it with the others, each organisation would have 20 pictures for the price of one or, putting it another way, 20 pictures at £1,000 each, and most television broadcasting organisations could afford *that* sum.

I would emphasise, however, that we do not want to go into production with full-length pictures other than those which we can make by electronic methods, viz., by what we call "telefilming" and the Americans call "kinescoping."

In reply to any question as to whether we have a quarrel with the film industry I would reply that it takes two to make a quarrel and that there is none on our side.

We have never disguised the fact that we would like to have a round dozen really classic films from the industry each year—films like "Hamlet" and "Red Shoes," for instance—*after* they have served their useful life in the kinema, of course, and we believe that this could do the industry more good than harm.

I personally believe that the average family goes to the kinema regularly—as a matter of habit. When it buys a television set it goes through a honeymoon period when it is literally hypnotised by the television screen, during which time it does nothing but view television and during which time it gets out of its previous kinema-going *habit*.

When in due course it gets its second wind, it starts going to the kinema again, but irregularly as opposed to regularly, and the comparatively poor and invariably aged films which it sees on its television set do not exactly remind it that if it goes to the kinema more often it can see really first-class films providing a polished entertainment quite different from what it can see on television.

BRINGING CARTOONS OUT—Continued

that it comes behind the contour of the cheek.

In addition to the mechanism described, there is a number of other devices contributing to the perfection of a stereoscopic pair which Joe Noble has devised. There is a device for locating half-tones, and a novel type of parallax bar frame to assist the cartoonist. There is also a method of scroll linkage beneath the table to control the various perspectives. Eventually the mechanical gear may be replaced by a Magslip interlock.

A point which the inventor emphasises is that cartoon films are in general not mere factual representations, but demand a certain degree of exaggeration; such distortion is completely within the powers of the artist on this device. Further, the stock effect of the stereoscopic film—a ball or other object thrown towards the camera—can be reproduced with true realism, and with the usual startling effect.

The system, as already mentioned, is being employed by the Vandyke Picture Corporation, under the personal supervision of Roger and Nigel Proudlock, and preparations for its commercial exploitation have now reached an active stage.

Joe Noble is also keen to interest Continental producers in his ideas.

LOOKING BACK ON

The Studio Scene

Reviewed by GRAHAM CLARKE, "Kine." Studio Correspondent

THERE is no doubt that the film year just ended has been one of stabilisation in British production. It has seen an appreciable improvement in the number of features made under the British Quota Act, and there can be no argument that the quality has been maintained and, in the case of supporting and co-features, it has definitely improved.

Producers are agreed that the reason for this is the extra money they have obtained through the Eady Fund, which has now been in operation long enough for the full impact of its returns to production to be realised.

The fluctuation of studio facilities during the year has a paradoxical appearance. Worton Hall, Isleworth, Teddington and Beaconsfield have been allowed to go to uses outside the industry and a similar fate hangs over Denham; but Brighton has again entered regular production; and new facilities are being built at Shepperton; Highbury and National, both of which had been idle for a considerable time, have been brought back to activity, though maybe not to the advantage of kinemas. The experiment at National, where films for American television are being made on a large scale, is one of the major developments of the year. Combined with the development of filming by electronic methods at Highbury, it could have a very considerable effect on the availability of technicians for normal feature production.

The fact remains that, during the peak summer period, there was the phenomenon—for this country—of a shortage of studio space. This, however, had its good effect in that it brought profitable feature custom to the smaller studios. These also felt the advantage of an extension of American participation in British production, which, last year, entered the second and co-feature field to a degree that has never before been experienced.

One other notable trend that is continuing and growing is the use of colour, and this can be expected to be even more marked in the coming year. There were also indications, with promise of continuation, that American production companies are appreciating the advantage of making British quota films.

No year seems to be complete without its cloud, and in 1952 this came in the autumn, where a large number of films were delayed by token strikes and black-outs springing from inability of the British Film Producers' Association and the three studio unions to agree terms of wages and conditions. Happily, the worst of the trouble lasted only a few days before a truce was declared, but, at the time of writing, there is no sure prospect that the truce will be converted to peace.

As will be seen from the prospects for 1953, detailed elsewhere in this issue, the future of production is probably brighter at the moment than it has been since the slump, but nearly all the confidence depends on the renewal of the Eady levy for a period long enough to justify planning well ahead.

TOTAL FIRST FEATURE OUTPUT

Studios in Use	Total Stages	Total Stage Space, sq. ft.	1951	1952
23	68	605,318	53	—
21	57	472,481	—	66

STUDIO STAFF CHANGES OF THREE MAJOR GROUPS

	Technical		Constructional		Clerical and Other Grades		Totals	
	December, 1951	December, 1952	December, 1951	December, 1952	December, 1951	December, 1952	December, 1951	December, 1952
PINEWOOD	222	265	380	482	254	271	856	1,018
SHEPPERTON	127	123	157	383	235	175	519	681
ASSOCIATED BRITISH (Elstree)	125	120	309	298	193	184	627	602

Studio-by-Studio Product of 1952 and Time Schedules

ABPC (ELSTREE)

(Elstree 1600)

Stages

(1) 100 ft. × 150 ft. = 15,000 sq. ft.
(2) 100 ft. × 150 ft. = 15,000 sq. ft.
(3) 100 ft. × 150 ft. = 15,000 sq. ft.
(4) 100 ft. × 150 ft. = 15,000 sq. ft.
Total : 60,000 sq. ft.

Employment	Dec., 1951	Dec., 1952
Technical ..	125	120
Construction ..	309	298
Clerical and others	193	184
Total : ..	**627**	**602**

BRIGHTON

(Brighton 20905/6–29962)

Stages

(1) 60 ft. × 40 ft. = 2,400 sq. ft.
(2) 75 ft. × 40 ft. = 3,000 sq. ft.
Total : 5,400 sq. ft.

Employment	Dec., 1951	Dec., 1952
Technical ..	,,	,,
Construction ..	,,	,,
Clerical and others	,,	,,
Total: ..	,,	,,

TITLE	DIRECTOR	STARS	PRODUCER	RENTERS	SHOOTING WEEKS
24 Hours of a Woman's Life	Victor Saville	Merle Oberon, Richard Todd	Ivan Foxwell	AB-Pathe	12
Top Secret	Mario Zampi	Oscar Homolka, George Cole	Mario Zampi	AB-Pathe	12
Castle in the Air	Henry Cass	Margaret Rutherford, David Tomlinson	Edward Dryhurst	AB-Pathe	8
Elstree Story	Gilbert Gunn	——	ABPC	AB-Pathe	2
South of Algiers	Jack Lee	Van Heflin, Wanda Hendrix	Mayflower	AB-Pathe	12
Father's Doing Fine	Henry Cass	Richard Attenborough, Heather Thatcher	Victor Skutezky	AB-Pathe	8
The Master of Ballantrae	William Keighley	Errol Flynn, Beatrice Campbell	Warner's	Warner's	12
The Yellow Balloon	J. Lee Thompson	Andrew Ray	ABPC	AB-Pathe	8
My Death is a Mockery	Tony Young	Donald Houston, Kathleen Byron	Adelphi	Adelphi	4
Palace Pier	Lance Comfort	Ron Randell, Veronica Hurst	Major	Apex	4

Continued on page 52

STUDIO-BY-STUDIO PRODUCT—*continued from page 51*

STUDIO.	TITLE.	DIRECTOR.	STARS.	PRODUCER.	RENTERS	SHOOTING WEEKS
BUSHEY (Bushey Heath 1621)	**The Stolen Plans**	James Hill	——	GBI	ABFD	4
Stage 60 ft. × 40 ft. **Total : 2,400 sq. ft.**						
Employment — Dec., 1951 — Dec., 1952 Technical .. N.A. 20 Construction .. ,, 10 Clerical and others .. ,, 7 **Total : .. 68 37**						
EALING (Ealing 6761)	**I Believe in You**	Basil Dearden	Celia Johnson, Cecil Parker	M. Balcon	GFD	11
Stages (1) 58 ft. × 34 ft. = 1,972 sq. ft. (2) 126 ft. × 76 ft. = 9,576 sq. ft. (3A) 85 ft. × 71 ft. = 6,035 sq. ft. (3B) 85 ft. × 71 ft. = 6,035 sq. ft. Model Stage 79 ft. × 61 ft. = 4,819 sq. ft. **Total : 28,437 sq. ft.**	**Mandy**	Alexander Mackendrick	Terence Morgan, Phyllis Calvert	M. Balcon	GFD	6
	The Cruel Sea	Charles Frend	Jack Hawkins	M. Balcon	GFD	—
	The Gentle Gunman	Basil Dearden	John Mills, Dirk Bogarde	M. Balcon	GFD	6
	†The Titfield Thunderbolt	Charles Crichton	Stanley Holloway, George Relph	M. Balcon	GFD	
Employment — Dec., 1951 — Dec., 1952 Technical .. 123 120 Construction .. 183 180 Clerical and others 110 109 **Total : .. 416 409** (Note: the above figures do not include canteen staff of approximately 24.)						
EXCLUSIVE (at Bray) (Country House Studio)	**Four-sided Triangle**	Terence Fisher	Barbara Payton, Stephen Murray	Exclusive	Exclusive	5
	The Flanagan Boy	Reginald Le Borg	Barbara Payton, Tony Wright	Exclusive	Exclusive	5
GATE (ELSTREE) (Elstree 2080)	**†Decameron Nights**	Hugo Fregonese	Joan Fontaine, Louis Jourdan	Film Locations	Eros	8
Stages 126 ft. × 80 ft. = 10,080 sq. ft 30 ft. × 45 ft. = 1,350 sq. ft. **Total : 11,430 sq. ft.**	**Innocents in Paris**	Gordon Parry	Alastair Sim, Ronald Shiner	Romulus	Independent	4
	Steeet Corner	Muriel and Sydney Box	Anne Crawford, Peggy Cummins	London Independent	GFD	11
Employment — Dec., 1951 — Dec., 1952 Technical .. 20 N.A. Construction .. 22 ,, Clerical and others 8 ,, **Total : .. 50 ,,**						
MANCHESTER (Rusholme 4025)	**Never Look Back**	Francis Searle	Rosamund John, Hugh Sinclair	Exclusive	Exclusive	5
Stages (1) 100 ft. × 55 ft. Widening to 80 ft. = 6,755 sq. ft. approx. (2) 50 ft. × 40 ft. = 2,000 sq. ft. **Total : 8,755 sq. ft.**	**Wearing the Pants**	John Harlow	Jack Warner, Charles Victor	Film Studios (Manchester)	Eros	5
	Love's a Luxury	Francis Searle	Hugh Wakefield, Derek Bond	Film Studios (Manchester)	Mancunian	5
Employment — Dec., 1951 — Dec., 1952 Technical .. N.A. N.A. Construction .. ,, ,, Clerical and others ,, ,, **Total : .. ,, ,,**						
MERTON PARK (Liberty 4291)	**Mystery Junction**	Michael McCarthy	Laurence Harvey, Susan Shaw	W. H. Williams	Eros	4
Stages (1) 72 ft. × 66 ft. = 4,752 sq. ft. (2) (L-shaped) 42 ft. × 17 ft. with 18 ft. × 17 ft. annex. = 1,020 sq. ft. **Total : 5,772 sq. ft.**	**John of the Fair**	Michael McCarthy	——	Frank Hoare	ABFD	6
	Wide Boy	Van Hughes	Sidney Tafler, Susan Shaw	Anglo-Amal.	ABFD	6
	Ghost Ship	Vernon Sewell	Hazel Court, Dermot Walsh	Anglo-Amal.	Anglo-Amal.	4
	Street of Shadows	Richard Vernon	Cesar Romero, Kay Kendall	Anglo-Amal.	Anglo-Amal.	5
	Hindle Wakes	Arthur Crabtree	Lisa Daniely, Brian Worth	Monarch	Monarch	8
Employment — Dec., 1951 — Dec., 1952 Technical .. 58 60 Construction .. 36 31 Clerical and others 27 29 **Total : .. 121 120**						

Continued on page 55

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STUDIO-BY-STUDIO PRODUCT —*continued from page 52*

MGM—BRITISH
(Elstree 2000)

Stages
A (1) 11,520 sq. ft. C (4) 11,520 sq. ft.
(2) 7,100 sq. ft. (5) 7,100 sq. ft.
B (3) 18,820 sq. ft. D (6) 11,500 sq. ft.
(7) 6,000 sq. ft.
Total: 73,560 sq. ft.

Employment	Dec., 1951	Dec., 1952
Technical ..	112	155
Construction ..	89	193
Clerical and others	163	139
Total : ..	**364**	**487**

TITLE.	DIRECTOR	STARS	PRODUCER	RENTERS.	SHOOTING WEEKS
Hour of Thirteen	Harold French	Peter Lawford, Dawn Addams	MGM (British)	MGM	8
Time Bomb	Ted Tetzlaff	Glenn Ford, Anne Vernon	MGM (British)	MGM	8
Never Let Me Go	Delmer Daves	Clark Gable, Gene Tierney	MGM (British)	MGM	8
†Invitation to the Dance	Gene Kelly	Gene Kelly	MGM (British)	MGM	—

NETTLEFOLD
(Walton-on-Thames 2414)

Stages
(A) 120 ft. × 85 ft. = 10,200 sq. ft. (with tank)
(B) 82 ft. × 52 ft. = 4,264 sq. ft.
(C) 110 ft. × 60 ft. = 6,600 sq. ft.
Total : 21,064 sq. ft.

Employment	Dec., 1951	Dec., 1952
Technical ..	15	N.A.
Construction ..	76	,,
Clerical and others	23	,,
Total : ..	**114**	,,

TITLE.	DIRECTOR	STARS	PRODUCER	RENTERS.	SHOOTING WEEKS
The Wallet	Martin Lewis	John Bentley, Jill Esmond	Butcher's	Butcher's	4
Private Information	Fergus McDowell	Jack Watling	ACT Films	Monarch	5
Girdle of Gold	Montgomery Tully	Maudie Edwards	Jack Dawe	Eros	4
†The Man Who Watched Trains Go By	Harold French	Claude Rains, Marta Toren	Raymond Stross	Eros	6
Paul Temple Returns	Maclean Rogers	John Bentley	Butcher's	Butcher's	4
Escape Route	Seymour Friedman, Peter Graham Scott	George Raft, Sally Gray	Banner	Eros	6
Pickwick Papers	Noel Langley	Nigel Patrick, James Hayter	Renown	Renown	6
There Was a Young Lady	Laurence Huntingdon	Michael Denison, Dulcie Gray	Butcher's	Butcher's	8
†Melba	Lewis Milestone	Patrice Munsel, Robert Morley	S.P. Eagle	UA	10
†The Sea Devil	Raoul Walsh	Yvonne de Carlo, Rock Hudson	Coronado	RKO Radio	12
Johnny on the Run	Lewis Gilbert	——	International Realist	ABFD	5
Grand National Night	Bob McNaught	Nigel Patrick, Moira Lister	Renown	Renown	6
Hammer the Toff	Maclean Rogers	John Bentley	Butcher's	Butcher's	4
The Toff	Maclean Rogers	John Bentley	Butcher's	Butcher's	4
Emergency Call	Lewis Gilbert	Jack Warner	Butcher's	Butcher's	6

PINEWOOD
(Iver 700)

Stages
(1), (2) & (3) 165 ft. × 110 ft. = 18,150 sq. ft.
(4), (5) 110 ft. × 82 ft. = 9,020 sq. ft.
Total : 72,490 sq. ft.

Employment	Dec., 1951	Dec., 1952
Technical ..	189	265
Construction ..	338	482
Clerical and others	237	271
Total : ..	**764**	**1,018**

TITLE.	DIRECTOR	STARS	PRODUCER	RENTERS.	SHOOTING WEEKS
The Card	Ronald Neame	Alec Guinness, Glynis Johns	Ronald Neame	GFD	12
Hunted	Charles Crichton	Dirk Bogarde	Independent	GFD	8
†The Importance of Being Earnest	Anthony Asquith	Michael Redgrave, Edith Evans	Javelin	GFD	12
Penny Princess	Val Guest	Yolande Donlan, Dirk Bogarde	Conquest	GFD	11
†The Planter's Wife	Ken Annakin	Claudette Colbert, Jack Hawkins	Pinnacle	GFD	12
Something Money Can't Buy	Pat Jackson	Patricia Roc, Anthony Steel	Vic	GFD	12
Venetian Bird	Ralph Thomas	Richard Todd, Eva Bartok	British Film Makers	GFD	12
Meet Me To-night	Anthony Pelissier	Valerie Hobson, Ted Ray	Anthony Havelock Allan	GFD	12
†It Started in Paradise	Compton Bennett	Jane Hylton, Terence Morgan	S. Nolbandov and Leslie Parkyn	GFD	12
Made in Heaven	John Paddy Carstairs	David Tomlinson, Petula Clarke	George Brown	GFD	10
The Long Memory	Robert Hamer	John Mills	Hugh Stewart	GFD	10
The Net	Anthony Asquith	Phyllis Calvert, James Donald	Anthony Darnborough	GFD	12
†The Sword and the Rose	Ken Annakin	Richard Todd, Glynis Johns	Walt Disney (British)	——	14
Desperate Moment	Compton Bennett	Dirk Bogarde, Mai Zetterling	George Brown	GFD	12

RIVERSIDE
(Riverside 3012)

Stages
(1) 105 ft. × 75 ft. = 7,875 sq. ft.
(2) 80 ft. × 60 ft. = 4,800 sq. ft.
Total : 12,675 sq. ft.

Employment	Dec., 1951	Dec., 1952
Technical ..	N.A.	10
Construction ..	,,	66
Clerical and others	,,	26
Total : ..	,,	**102**

TITLE.	DIRECTOR	STARS	PRODUCER	RENTERS.	SHOOTING WEEKS
Wings of Danger	Terence Fisher	Zachary Scott, Robert Beatty	Exclusive	Exclusive	5
Stolen Face	Terence Fisher	Lizabeth Scott, Paul Henreid	Exclusive	Exclusive	5
The Second Mrs. Tanqueray	Dallas Bower	Pamela Brown, Hugh Sinclair	Vandyke	ABFD	4
Little Big Shot	Jack Raymond	Ronald Shiner	Byron	ABFD	5
Lady in a Fog	Pat Jenkins	Cesar Romero	Exclusive	Exclusive	5
The Steel Key	Robert S. Baker	Terence Morgan, Joan Rice	Tempean	Eros	4
The Pledge	John Gilling	Valerie Hobson, Edward Underdown	Tempean	Eros	4
Master Crook	Lewis Gilbert	James Kenney, Joan Collins	Daniel Angel	Independent	6
Roughshoot	Robert Parrish	Joel McCrea, Evelyn Keyes	Raymond Stross	UA	12
Deadly Nightshade	John Gilling	John Bentley, Olga Edwards	Mid.-Century Films	——	4

Continued on page 57

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HERBERT T. KALMUS, CHAIRMAN

STUDIO-BY-STUDIO PRODUCT —*continued from page 55*

STUDIO.	TITLE.	DIRECTOR.	STARS.	PRODUCER.	RENTERS.	SHOOTING WEEKS.
SHEPPERTON (Chertsey 2611)	**The Gift Horse**	Compton Bennett	Trevor Howard, Sonny Tufts	Molton	British Lion	14
Stages (A), (C) 150 ft. × 120 ft. = 18,000 sq. ft. (B), (D) 100 ft. × 120 ft. = 12,000 sq. ft. (G) 72 ft. × 94 ft. = 6,768 sq. ft. (E), (F) 72 ft. × 44ft. = 3,168 sq.ft. Silent stage 250 ft. × 119 ft. = 29,750 sq. ft. Scoring stage 68 ft. × 99 ft. = 6,732 sq. ft. Insert stage 80 ft. × 36 ft. 6 ins. = 2,920 sq. ft. Trick stage 70 ft. × 40 ft. = 2,800 sq. ft. **Total : 112,138 sq. ft.**	**Derby Day**	Herbert Wilcox	Anna Neagle, Michael Wilding	Imperadio	British Lion	7
	Trents Last Case	Herbert Wilcox	Margaret Lockwood, Michael Wilding	Imperadio	British Lion	7
	Home at Seven	Ralph Richardson	Ralph Richardson, Margaret Leighton	London Films	British Lion	2
	The Holly and the Ivy	George More O'Ferrall	Ralph Richardson, Margaret Leighton	London Films	British Lion	6
	Who Goes There	Anthony Kimmins	Nigel Patrick, George Cole	Anthony Kimmins	British Lion	5
	Twice Upon a Time	Emeric Pressberger	Yolande and Charmian Larthe	London Films	British Lion	6
	†Gilbert and Sullivan	Sidney Gilliat	Maurice Evans, Robert Morley	Launder and Gilliat	British Lion	12
	The Ringer	Guy Hamilton	Herbert Lom, Donald Wolfit, Mai Zetterling	London Films	British Lion	4
	Folly to be Wise	Frank Launder	Alastair Sim, Elizabeth Allan	Launder and Gilliat	British Lion	8
	An Appointment in London	Phil Leacock	Dirk Bogarde	London Films	British Lion	8
	Circumstantial Evidence	Daniel Birt	Rona Anderson, Patrick Holt	ACT Films	Monarch	4
	The Red Beret	Terence Young	Alan Ladd, Leo Genn	Warwick	Columbia	—
	†The Beggars' Opera	Peter Brook	Laurence Olivier	Imperadio	British Lion	—
	Single Handed	John Boulting	Jeffrey Hunter	20th Century-Fox	20th Century-Fox	—
	†Moulin Rouge	John Huston	Jose Ferrer	Romulus	Independent	12
SOUTHALL (Southall 3281)	**You're Only Young Twice**	Terry Bishop	Duncan Macrea, Diane Hart	Group 3	ABFD	6
Stages (1) 125 ft. × 60 ft. = 7,500 sq. ft. (2) 24 ft. × 50 ft. = 1,200 sq. ft. **Total : 8,700 sq. ft.**	**Nothing to Lose**	Lewis Gilbert	Eddie Byrne	Group 3	ABFD	6
	The Brave Don't Cry	Phil Leacock	John Gregson	Group 3	ABFD	6
	Miss Robin Hood	John Guillermin	Margaret Rutherford	Group 3	ABFD	6
	Laxdale Hall	John Eldridge	Ronald Squire, Kathleen Ryan	Group 3	ABFD	6
	To Tell You the Truth	C. Pennington Richards	Robert Beatty	Group 3	ABFD	6
	Child's Play	Margaret Thompson	——	Group 3	ABFD	6
TEDDINGTON (Kingston 2181) Not now operating	**Treasure Hunt**	John Paddy Carstairs	Jimmy Edwards, Naunton Wayne	Romulus	Independent	4
VIKING (Western 2516)	**Night Was Our Friend**	Michael Anderson	Elizabeth Sellars, Ronald Howard	ACT Films	Monarch	4
Stages 40 ft. × 26 ft. = 1,040 sq. ft. 35 ft. × 26 ft. = 910 sq. ft. **Total : 1,950 sq. ft.**	**Distant Trumpet**	Terence Fisher	Derek Bond	Meridian Films	Apex	
	My Wife's Lodger	Maurice Elvey	Dominic Roche	Advance Films	Adelphi	4
VOICE OF LONDON, THE (Ambassador 1881)	**Tread Softly**	Dave Macdonald	Frances Day, Patricia Dainton	Albany	Apex	—
Stages 50 ft. × 23 ft. = 1,150 sq. ft. 50 ft. × 23 ft. = 1,150 sq. ft. **Total : 2,300 sq. ft.**						

Employment	Dec., 1951	Dec., 1952
Technical	136	123
Construction	230	383 ft.
Clerical and others	158	175
Total :	**524**	**681**

Employment	Dec., 1951	Dec., 1952
Technical	2	17
Construction	N.A.	59
Clerical and others	2	20
Total :	**4**	**96**

Employment	Dec., 1951	Dec., 1952
Technical	N.A.	N.A.
Construction	,,	,,
Clerical and others	,,	,,
Total :	,,	,,

Employment	Dec., 1951	Dec., 1952
Technical	N.A.	N.A.
Construction	,,	,,
Clerical and others	,,	,,
Total :	,,	,,

No complete features were made at the following studios during the year:–

BEACONSFIELD
(Beaconsfield 555)

Stages
115 ft. × 55 ft.
Total : 6,325 sq. ft.

Employment	Dec., 1951	Dec., 1952
Technical	N.A.	N.O.
Construction	,,	,,
Clerical and others	,,	,,
Total :	,,	,,

CARLTON HILL
(Maida Vale 1141)

Stages
(1) 36 ft. × 24 ft. = 864 sq. ft.
(2) 18 ft. × 24 ft. = 432 sq. ft.
Total : 1,296 sq. ft.

Employment	Dec., 1951	Dec., 1952
Technical	4	4
Construction	4	4
Clericaland others	4	4
Total:	**12**	**12**

DENHAM
(Denham 2345)

Stages
(1), (2) & (3) 116 ft. × 77 ft. = 8,932 sq. ft.
(4), (5) 244 ft. × 114 ft. = 27,816 sq. ft.
(6) 114 ft. × 115 ft. = 13,110 sq. ft.
(7) 129 ft. × 115 ft. = 14,835 sq. ft.
Total : 110,373 sq. ft.

Employment	Dec., 1951	Dec., 1952
Technical	33	N.O.
Construction	42	,,
Clerical and others	59	,,
Total :	**134**	,,

† Indicates colour film. N.O. = Not operating. N.A. = Not available.

Continued on page 63

1953

To translate pomp and pageantry into vivid picture and sound — to make the year ahead, in the most literal sense, unforgettable — cameramen will depend, as usual, on

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1952: YEAR OF COLOUR AND ELECTRONICS

By R. H. CRICKS, FBKS, FRPS

THE days of orthodox black and-white filming are passing A year ago colour wa generally acclaimed as the answer o television, and planning has een hastened by the widespread emand for colour records of the oronation. Electronics, which first vaded the motion picture indus y 25 years ago, is now bidding for n interest in the actual job of pic ure photography, besides offering ver-improved facilities for sound ecording.

By its bold decision years ago to oncentrate on colour, Denham aboratories has attained a lead hich no other lab. can at the nomen challenge. Developments eported during the past year have ncluded the conversion of Debrie eveloping machines for the hand ing of the various tripack pro esses, the use of these processes n an interchangeable basis, and a ove towards rationalising pro essing so that the various stocks an be handled on the same achines, with differences in the ming and the solutions.

When, in two or three months' me, this preliminary work is com leted, and the equipment is in full orking order, the output of colour ill form quite an important pro ortion of the trade's total film otage.

Speeding Process

Bill Harcourt is still very pained by the slow speed at which the lour machines have to operate, as mpared with the 250 ft. per inute which he achieves on his ge GB-Kalee machines. But re nt co-operation between the stock akers and Dr. Gloyns, Denham's le chemist, will, it is hoped, lead a considerable speeding up of ocessing. This, in turn, will entually have an effect on the st of colour prints.

Denham is quite catholic in its ews on the various processes. ost of the output has so far been inted on Gevacolor, but rrania now offers an important antage; the availability of an r-negative stock which enables ing to be carried out exactly as black-and-white, with little loss colour quality, thanks to the r-masking system employed.

he new stock is processed by re l, and this entails only a single ing operation, but on an printer to get the image the way round. Additional tanks necessary in the developing nt to provide the bleaching and -development operations.

Bill Harcourt tells me he has had ellent results from this stock, within a couple of months he ds to have the stock and pro ng available to customers.

ther a third process for which am is now equipped is East Color. So far only negative positive stocks have been el, but a duping stock is also ble in the States, which, judg by test strips which Denis n showed me, should be le of first-class results.

ost certainly then we shall oronation films made at Den by all three processes. But the only Eastman Color film we have so far seen in this country, "Carson City," is, I learn, being processed by Technicolor.

We have still to see the Technicolor low-light process in British studios. This modification, it is reported, permits the lighting level to be reduced by two-thirds, to a figure comparable with that for black-and-white.

According to Jack Coote, the principle of this system is an increase in the contrast of the blue record, which is normally the limiting factor in exposure; the system is consequently balanced for a lower colour-temperature. First, the gold reflecting interface in the camera prism is replaced by silver, which passes more light to the blue negative; then the latter is latensified.

A paper recording some of the methods used in the British Tricolour process was reported in the KINE. earlier this year.

The contribution to colour of Kay's Laboratories is the installation of a Debrie processing machine of the latest ype. Known as the DUC; this machine, like earlier models, operates in daylight, but it has been specially designed to provide the flexibility necessary for handling the different tripack systems. Merely by altering the solutions and the run of the film, the machine will be able to handle Gevacolor, Ferrania, Eastman and any other process that may arrive.

Initially, printing will be done on the Debrie "Matipo" machine, but experiments are now in progress with a continuous printer, which will, of course, have a much increased output. Almost certainly Kay's will be producing prints of Coronation material on Gevacolor, irrespective of what negative material may have been used.

George Humphries and Co. has announced an extension of its plant to handle colour. It is said that building extensions are already in hand and that equipment is being installed to handle Eastman Color. A pilot plant is already in operation and the results are said to be very satisfactory.

By next month, Wardour Street's newest laboratory, Reed's Colour Film Printing, will be in full operation. The premises formerly occupied by Sydney Wake, Ltd., at 89-91, Wardour Street—40 years ago the home of the world's first commercial colour process, Kinemacolor—are being re-equipped for the specialised handling of colour films by all processes.

In addition to contact printing, both reduction printing and blow-ups are undertaken, to and from 35-mm., 16-mm. and 8-mm.—a valuable addition to the facilities available to the maker of sub-standard films.

Silver recovery assumes increased importance with colour, because of the double **fixing** process and the elimination of silver from the finished print. I have recently been consulted by D. Pennellier and Co., Ltd., agents for the "Purhypo" process of silver recovery, as to the suitability of this process for use in conjunction with colour processing. It has been established that the process is perfectly suitable for such work, and will operate without sulphiding over a range of *p*H values.

Of the two fixing baths in tripack processing, the first is a normal acid bath (Gevaert recommend a *p*H of between 4.5 and 5.5) and the second is neutral or slightly alkaline. In the system which Malcolm Hoare proposes installing at Kay's—one of the first laboratories to instal "Purhypo"—the second fixer will be used as a replenisher for the first fixer, and the latter only will pass through the silver recovery tanks.

Turning now to our second topic of electronics, much controversy has been aroused during the year by the proposals of High Definition Films, Ltd. This company—the principals of which are Norman Collins and T. C. Macnamara, both formerly of the BBC and Pye Radio—proposes making films by television methods.

Electronic cameras are to be used on the floor, the pictures picked up being reproduced on a number of screens, from which the director could select the desired picture for recording on film in a remote camera room—a system the equivalent of that of sound recording.

Highbury Developments

Some months ago we saw the first demonstration film made by the process. The standard of definition, while very good as compared with home television, was hardly adequate for the kinema. However, this film had been made on more or less conventional equipment; new equipment has been developed, which mathematics demonstrates should produce a picture quality in no way inferior to that of a normally photographed film.

For the production of films, first for television programmes, the company has taken over Highbury Studios. Mr. Macnamara tells me that by the time this article appears he hopes to have recorded material of acceptable quality.

Time will Show

The objections urged against the process, however, have not been on technical grounds—it is accepted that an adequate standard of picture quality can be achieved on closed-circuit equipment — but chiefly on the proposal that either the director or the editor should edit the film actually while it is being shot.

Editing plays such a major creative part in film making—can it become merely an operation incidental to acting and photography, without losing entertainment value?

This is a question to which there can be no clear-cut answer. Admitting that the idea may be perfectly feasible for films for television transmission, only experience can show whether it will produce material acceptable in the kinema.

Films produced by technically similar methods have, of course, been increasingly employed in television. Transmissions from telefilms, as they are known in

Continued on page 61

The Gaumont-Kalee ferrosonic portable magnetic recorder for 35-mm. film

G.E.C.

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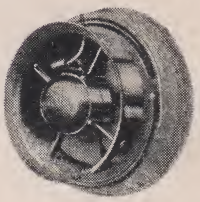

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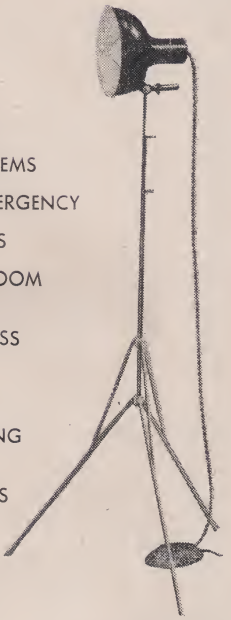

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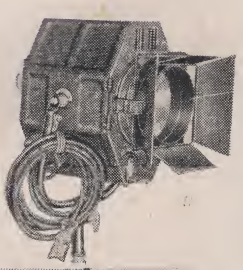
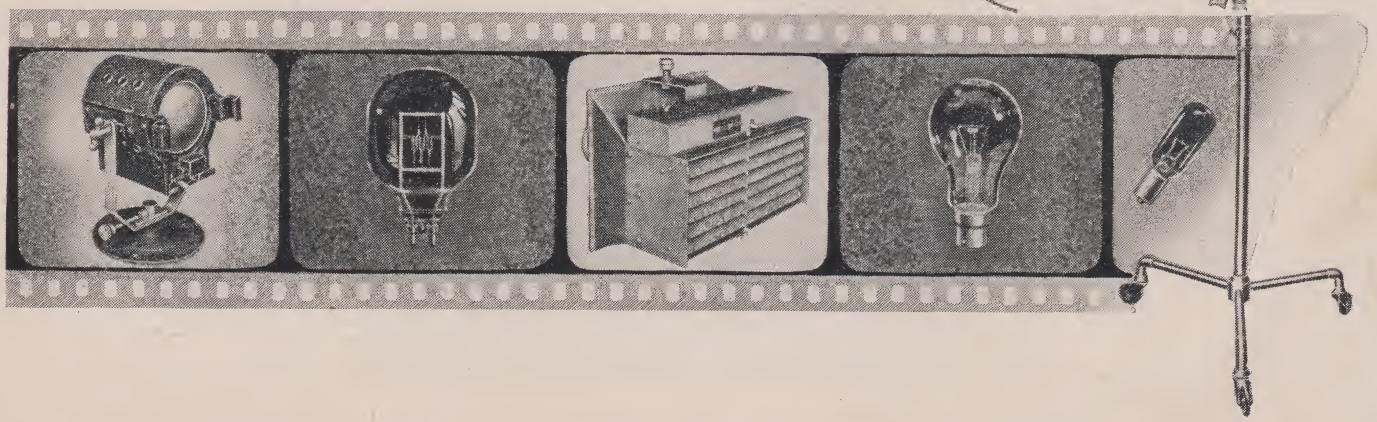




THE GENERAL ELECTRIC CO. LTD · MAGNET HOUSE · KINGSWAY · LONDON · W.C.2

1952: YEAR OF COLOUR AND ELECTRONICS—contd.

this country, or kinescope recordings, to use the American term, are at present distinctly inferior in quality to direct transmissions, but it must not be assumed from this that the same faults of tone falsification and loss of image detail need mar films made on equipment developed for the specific purpose, and operating on closed circuit. In fact, in the New Year a new telefilm system is being introduced by the BBC which, it is hoped, will show marked improvement. The organisation of High Definition Films includes several of the former BBC technicians who made telefilms possible.

TV Ideas

Although actual telefilm recording cannot yet be considered acceptable in the film studio, television has nevertheless played a part in film-making. At the ABPC Studios a complete film was played throughout before the television cameras before the actual shooting, so that not only its technical points but its entertainment value could be assessed.

Newsreels and some outside broadcasts for television transmission are still photographed by orthodox means. Last month Philip Dorté, head of the BBC Films Division, gave the BKS some interesting facts concerning the television newsreel. This reel, he estimated, is seen daily by 6 million viewers; at present issued in five editions a week, he envisaged ultimately that there would be two editions a day. It is anticipated that by 1954 the bulk of BBC filming will be on 16-mm.

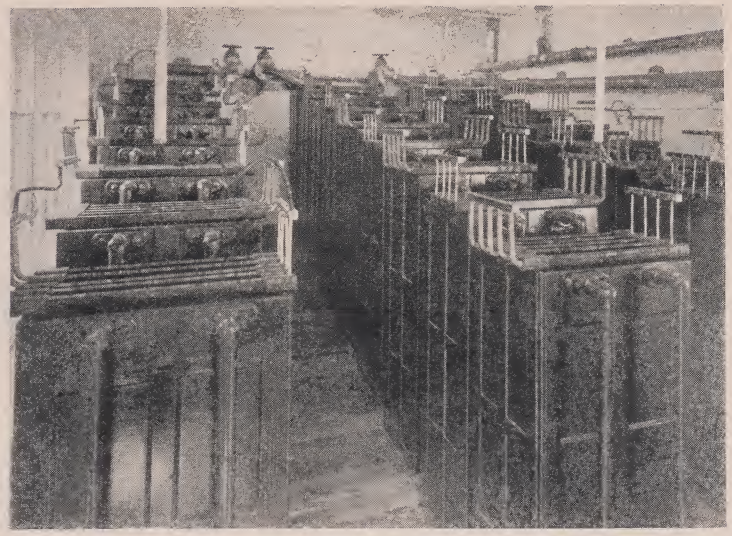
Turning now to sound recording, interest continues to centre on magnetic recording. In general it can be said that perforated film is preferred for the studio and tape for location because of the extreme portability of the equipment.

Western Electric, RCA and GB-Kalee have all produced adaptations of their photographic recorders, permitting them to run alternatively photographic or magnetic film. The value of this alternative system of operation has been demonstrated by W. S. Bland, of Associated British-Pathé, whose Oxford Street studios are equipped with RCA dual equipment.

Magnetic Recording

The first portable synchronous recorder specifically designed for perforated magnetic film has been produced by GB-Kalee. It is designed to handle either 35-mm. or 17.5-mm. film, and contains all the refinements found on other studio recorders, such as facility for interchange of motors, a compression system, built-in test oscillator, as well as provision for running in either direction.

The problems of synchronism between tape and picture have been satisfactorily solved in the Leevers-Rich equipment. The method used is the recording on the tape of pulses generated in the camera, so that any type of camera, electrically or clockwork driven, can be used. Leevers-Rich



The Purhypo installation at Kay's Laboratories, London

recorders have been used on practically every important location job of the past year.

While it is still customary to transfer OK takes immediately to photographic film, for editing, the retention of the magnetic track up to the production of the release negative is envisaged in new equipment introduced by RCA. Known as the PM.63, the new equipment is rack-mounted, and provides facilities for recording or re-recording three separate 200-mil tracks across the width of a 35-mm. magnetic film. These tracks may, for instance, consist of dialogue, music and effects, or alternatively of consecutive takes, adjacent tracks then running in opposite directions. Provision is made for adjustment of sync. while running.

Bulk Erasure

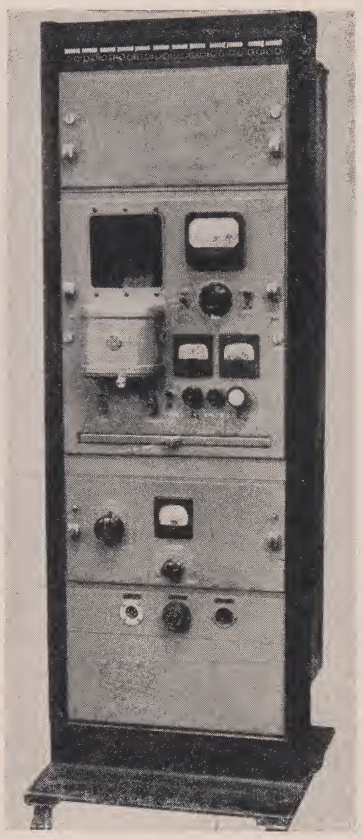
Although most magnetic gear is fitted with erasing heads, actually the principle of bulk erasure is much to be preferred. In equipment such as is made by RCA and Leevers-Rich, the reel of film or tape is simply placed for a second or two in a powerful alternating field, and any modulations are erased to an extent of possibly 20 db. better than in the ordinary erasing head.

For both film and tape, Pyral material has proved very satisfactory. This is handled in this country by Zonal Facilities, in whose premises at the Tower, Hammersmith, equipment has just been installed for the "striping" of films: the coating of a stripe of magnetic material over part or the whole of the sound track. One valuable feature of this idea is that it enables a film to carry two separate sound tracks, for instance, in different languages.

Although so far the system has been chiefly used on 16-mm. equipment—combined photographic and magnetic sound projectors have been produced by Bell and Howell, RCA and Ampro—it will no doubt find wide applications in 35-mm.

Notwithstanding the increasing use of magnetic systems for primary recording—and W. H. Clarke, of RCA, has suggested that even photographic release prints might be directly recorded from a magnetic master—eventually the sound must be re-recorded photographically, and for this reason the maintenance of a high quality of photographic recording is as important as ever. RCA has brought into use a galvanometer testing rack, which permits a recording galvo to be tested and adjusted under identically the same conditions as in the recording camera.

A different application of electronics which is finding increasing use during production is the Pye business radio system. Newly developed equipment consists of two types of unit. A compact station to serve as control has an output of from 1 to 2½ watts, and can work with any number of "Walkie-phones"—units weighing only 8 lb., which are worn on the chest; both units are crystal controlled. Pioneers in the use of this equipment were Ealing Studios where, by the erection of a high aerial, a radius of 15 to 25 miles is covered The equipment is handled by Alfred Imhof.



Galvanometer test equipment made by RCA Photophone

A valuable accessory, whether for feeding sound equipment or for driving cameras, is the new silver-electrode accumulator brought out by Venner, and handled by Films and Equipments. It is half the size and one-third the weight of a lead battery of similar capacity; the voltage is 1.5 v. per cell, and a range of sizes is made, from a tiny cell smaller than a matchbox, up to a 12 v. 40 amp.-hour battery.

No new cameras have appeared during the year, but an important advance is the Vinten motorised run-truck. This is propelled by motors controlled from a steering tiller, while the cameraman, by depressing pedals, can turn, raise or lower his camera and himself. Most notable feature is its absolute silence in operation.

Turning to special-effects equipment, a couple of years ago a French device known as "Simplifilm" was demonstrated in London, which enabled effective matte shots to be made, if desired, just with picture postcards. Efforts by British producers to obtain the right to use this device have proved unavailing, but its production in America has been announced under the name of "Vistascope."

This survey of the past year's trends will demonstrate that, as on previous occasions, British equipment manufacturers tend to take advantage of a period of depression in the studio to produce new equipment in readiness for the next boom—a practical demonstration of their faith in British production.

MEASURING IMAGE BRIGHTNESS

A built-in exposure meter, capable of reading the image brightness in any part of the frame, is described by A. C. Coutant (designer of the Caméflex) in an article in *La Technique Cinématographique*.

The principle adopted is that a tiny barrier-layer photo-cell is movable about the image formed on the viewing glass on a shutter-reflex camera. By means of a knob at the rear of the camera the cell is moved through reduction leverage to take a reading on any part of the image. This system, therefore, enables selective brightness readings to be taken over any part of the scene, and the exposure adjusted for any feature of the picture.

An obvious difficulty is the small size of the cell necessary. An illustration shows the diameter of the cell to be about one-tenth the width of the picture, which fraction forms a limiting range to the measurement of small highlights.

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ON THE BOOKSHELF

Weather or Not Answered ✦ All About Film Theory

ONE of the most expensive commodities in film production is time, whether it is spent on artists, technicians, studios or location.

The tendency in past years has been towards more and more location shooting, which has naturally tied up the question of time with the problems of weather. Our climate can cost producers a lot of money. It is regular practice now to obtain meteorological reports and to arrange a schedule accordingly, but the question of planning well ahead, months perhaps, and judging where and when one may reasonably expect to find any particular kind of weather presents far greater difficulty.

Help in this direction has been given this month by the publication by the Stationery Office of a "climatological atlas of the British Isles," which bears the mark of the Air Ministry and the Meteorological Office.

In map form, with explanatory introductions, it shows the kind of weather that is normal at every time of year. Information over a great number of years has been gathered from over 200 observation points, ranging from Lerwick, in the Shetland Isles, to St. Ann's Head, in the Scillies, and St. Helier, Jersey.

It is full of interest and information, such as the fact that spring is one of the driest periods of the year, and that, as one moves from South-East to North-West across England, one is more and more likely to meet with rainy days.

Most producers, however, are likely to turn to the maps illustrating sunshine. These, like all, deal with areas rather than localities, but it is interesting to note that the record for sunshine hours in any one year is held by Jersey with 2,340, Eastbourne (2,158) and Torquay (2,112) being runners-up. Dullest places were Cullompton, in Devon, Kew, Manchester and Fort William.

Manchester (and Rotherham) are, perhaps not surprisingly, high in the list of places where it is possible to experience fog in midsummer, and this phenomenon has not been unknown in Birmingham, either. Even rarer is lying snow in summer, but it can nearly always be found in the Great Corrie of Allt-a-Mhullin, north-east of the summit of Ben Nevis.

Although it is presented, of necessity, in a technical fashion, all such information can be extracted from the volume with the aid of its explanatory notes, and a weather guide obtained that is as reliable as one can ever expect in these changeable isles.

Climatological Atlas of the British Isles, HM Stationery Office, 52s. 6d.

THE serious student of filmmaking will obviously welcome the English translation of the last book written by the late Bela Balazs, who is probably better known in Europe as a leading film theoretician than he is in England.

This volume of nearly 300 pages starts with the premise that the motion picture is "*the* popular art of our century—unfortunately not in the sense that it is the product of the popular spirit, but the other way round, in the sense that the mentality of the people, and particularly of the urban population, is to a great extent the product of this art, an art that is at the same time a vast industry."

From this the author argues that the question of educating the public to a better, more critical appreciation of films is a question of the mental health of nations.

He takes his argument from the early days (he, himself, was a film critic 30 years ago), when moving pictures were a fairground show, and certainly not yet an art; through the development of characteristics which were solely of kinematic origin; the birth of slapstick comedy; the gradual development from the straight photography of dramatic subjects to the special technique of cuts and changing angles and perspectives that are denied to the live stage, with the corresponding education of the public to accept, understand and enjoy these conventions.

While he is too wise to resist or decry ordered and fruitful progress, the author does occasionally allow himself a suspicion of nostalgic regret that the silent film was ousted by sound, as, for instance, his remark that "in the silent film facial expression, isolated from its surroundings, seemed to penetrate to a strange new dimension of the soul. . . . In the sound film the part played by this 'microphysiognomy' has greatly diminished . . . but many profound emotional experiences can never be expressed in words at all."

Having accepted sound, however, M. Balazs gives it a task which he describes lyrically as teaching us "to analyse even chaotic noise with our ear and read the score of life's symphony." Some makers of fill-in featurettes may be surprised to learn about their high destiny.

The book is illustrated with 16 photographic plates from films through the ages, which have been chosen to denote certain trends.

Theory of the Film (Character and Growth of a New Art), by Bela Belazs. Dennis Dobson, 25s.

MAGNETIC RECORDING AT MARYLEBONE

WITH the object of procuring tape recorders best suited to the specialised work of recording radio programmes, L. M. Clarkson, studio manager of The Voice of London Studios, Marylebone Road, visited a number of Continental manufacturers. As a result, the studios—which, as recently announced, have been acquired by J. Weiner, Ltd.—are now equipped with a plant probably unique in this country for tape recording and mixing.

In addition to the film, disc and tape channels already installed, no fewer than three Vollmer Magnetton static tape recorders are installed, with two portable units for location, reviews and also for editing.

The Vollmer Magnetton is designed to afford every facility in recording and editing, and is exclusively used by the Nordwestdeutscher Rundfunk. The static model has three motors, and the portable model one only.

A feature of both is the rapidity with which the tape can be stopped, started and reversed. In the static model, four press-buttons serve respectively for rewind, record, reproduce and stop, while on the portable model the effect is obtained on a lever; in both cases, the motors pick up very quickly. Both models can be run at either 15 in. or 30 in. per second, and both have "magic eyes" for indicating the depth of modulation. The Vollmer machines are designed to give a heavy modulation, particularly useful for recordings to be later mixed.

A feature of the installation of these machines is the variety of connections possible. Each channel has a patching panel, and as an example of the flexibility, Mr. Clarkson can feed a radio programme into the main recording console, record this on one of the Vollmer machines, pick up the monitoring signal from the tape and again record this on the EMI recorder, from which it emerges with unimpaired quality.

The EMI recorder will continue to be used for synchronous recordings with film, since experience shows that, thanks to its interlock motor and to careful maintenance, it is possible to record a full reel, and play off in sync.

The main stage of the studio is once more in operation, having been specially treated for band recording. Microphones are slung on chains, a system which enables rapid positioning. In the control room overlooking the stage is a patching panel for no fewer than ten microphones, together with talk-back microphone system.

Baffle boards have been hung from the ceiling to increase room resonance, and soft furnishings have been arranged for the best acoustic and decorative purposes.

The studios were officially reopened at a Press reception on December 4.

STUDIO BY STUDIO PRODUCT—*continued from page 57*

HIGHBURY
(Canonbury 3215)

Stages

(1) 113 ft. × 60 ft. = 6,780 sq. ft.
(2) 60 ft. × 30 ft. = 1,800 sq. ft.
Total : 8,580 sq. ft.

Employment	Dec., 1951	Dec., 1952
Technical ..	N.O.	N.A.
Construction ..	,,	,,
Clerical and others	,,	,,
Total	,,	,,

NATIONAL
(Elstree 1644)

Stages

C, D = 80 ft. × 112 ft. = 8,960 sq. ft.
B = 36 ft. × 61 ft. = 2,196 sq. ft.
E = 80 ft. × 168 ft. = 13,440 sq. ft.
Total : 33,556 sq. ft.

Employment	Dec., 1951	Dec., 1952
Technical ..	N.O.	80
Construction ..	,,	89
Clerical and others	66	66
Total : ..	**66**	**235**

TWICKENHAM
(Popesgrove 4451)

Stages

116 ft. × 62 ft.
Total : 7,192 sq. ft.

Employment	Dec., 1951	Dec., 1952
Technical ..	N.A.	N.A.
Construction ..	,,	,,
Clerical and others	,,	,,
Total : ..	,,	,,

WINDSOR (Cursitor Street)
(Chancery 8760)

Stages

(1) 56 ft. × 30 ft. (annexe 26 ft. × 20 ft.) 2,200 sq. ft.
(2) 22 ft. × 26 ft. = 572 sq. ft.
Total : 2,772 sq. ft.

Employment	Dec., 1951	Dec., 1952
Technical ..	N.A.	—
Construction ..	,,	—
Clerical and others	,,	—
Total: ..	,,	—

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